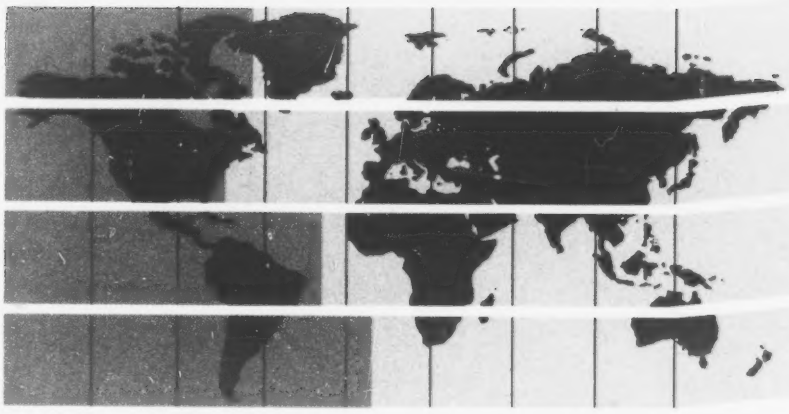
OUTLOOK FOR COMMERCIAL AIRCRAFT



1981 - 1995

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Douglas Aircraft Company, 3855 Lakewood Boulevard, Long Beach, CA 90846, U.S.A.

JULY 1981

CONTENTS

INTRODUCTION 3

FORECAST HIGHLIGHTS 5

TRAFFIC FORECAST
- Approach 11
- Summary of the Traffic Forecast 12
- Comparison with the 1980 Forecast 13
- Traffic Analysis 14

CAPACITY FORECAST
- Approach 19
- Summary of the Capacity Forecast 19
- Comparison with the 1980 Forecast 20
- Capacity Analysis 21

FLEET FORECAST
- Approach 27
- Summary of the Fleet Forecast 28
- Comparison with the 1980 Forecast 28
- Fleet Analysis 30

CARGO FORECAST
- Approach 35
- Summary of the Cargo Forecast 36
- Comparison with the 1980 Forecast 36
- Cargo Analysis 37

APPENDICES
- A. Definitions 43
- B. Econometric Approach 51
- C. Airlines Studied 55
- D. Traffic and Capacity Detail (Passenger and Cargo) 63
- E. Additional Aircraft Detail 73

INTRODUCTION

INTRODUCTION

This report summarizes the results of the Douglas Aircraft Company's 1981 commercial air transportation 15-year forecast covering the period 1981 to 1995. The results pertaining to the passenger sector of the industry are presented in three sections representing detailed forecasts for traffic, capacity, and fleet. A fourth section of the report gives a detailed traffic and fleet forecast for the cargo sector. Appendices provide definitions, summary forecast data, a list of the airlines studied, and a description of the econometric approach used for traffic forecasting.

Characteristics such as size, marketing philosophy, financial status, route structure, and fleet mix differ extensively between airlines. This fact necessitates the forecasting of aircraft requirements by analyzing each carrier individually. The approach used allows for a sufficient depth of analysis, so that reasonable estimates of future aircraft needs can be made, and is capable of handling over 200 carriers efficiently. The fleet operated by these carriers currently consists of over 6300 passenger and freighter aircraft. For a more detailed discussion of the approach used, refer to the approach subsection of the four main report sections.

FORECAST HIGHLIGHTS

- 201 airlines analyzed individually to forecast the passenger and cargo traffic, the capacity requirements, and the aircraft that will be required over the next 15 years.

- Expressed in scheduled revenue passenger-kilometers (RPK), the 1980 passenger traffic generated by the airlines in the study group included approximately 98 percent of the 1980 ICAO traffic (excluding the USSR and PRC). The 1980 year-end fleet for these carriers included 5200 jet passenger, 800 feeder/nonjet passenger, and 360 freighter/convertible-freighter aircraft.

- Total all-service passenger traffic for these carriers is forecast to increase from 1041 billion RPKs in 1980 to 2659 billion RPKs by 1995, an average annual RPK growth rate of 6.5 percent. The average load factor will increase from 62.4 percent in 1980 to 68.2 percent in 1995. This will result in an average annual capacity (available seat-kilometer (ASK)) growth rate of 5.8 percent.

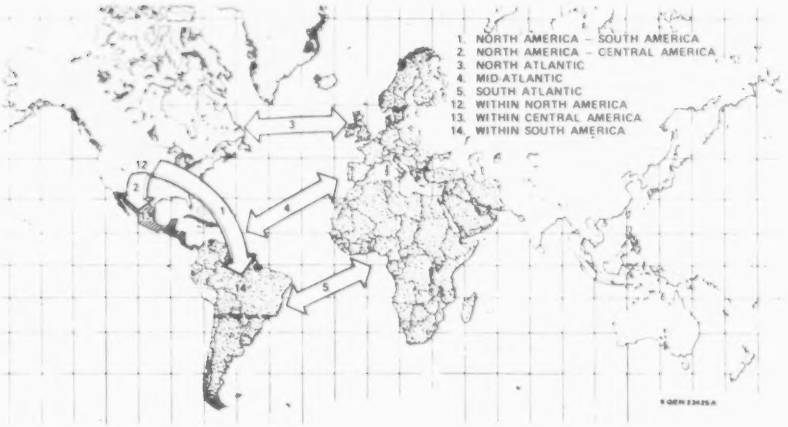
- Total all-service cargo traffic (both all-freight and belly-pit) is forecast to grow from 32 billion revenue tonne-kilometers (RTK) in 1980 to almost 97 billion RTKs by 1995, an annual RTK growth rate of 7.7 percent.

- Traffic growth together with replacement of retired aircraft will create a market for approximately 4650 passenger jet, 450 passenger feeder/nonjet, and 360 freighter aircraft by 1995. These aircraft are in addition to 1700 aircraft already ordered or under option.

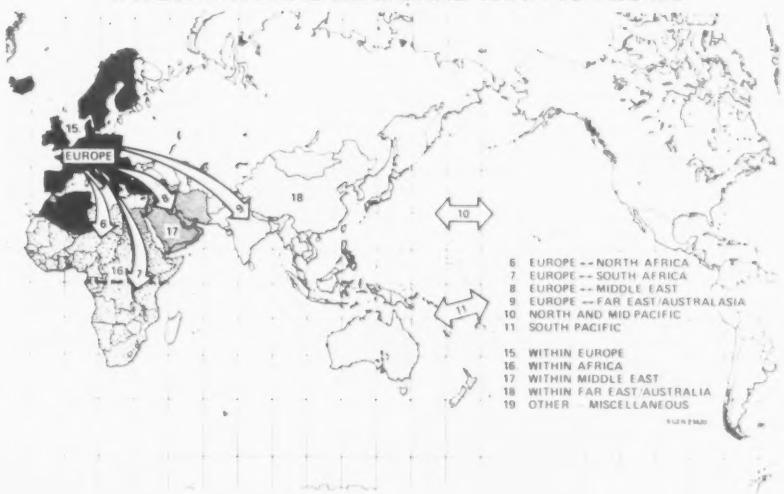
- The additional passenger aircraft (including orders and options) will generate 75 percent of the total capacity (ASK) required by 1995 and represent a capital requirement of $225 billion in 1981 dollars.

TRAFFIC FORECAST

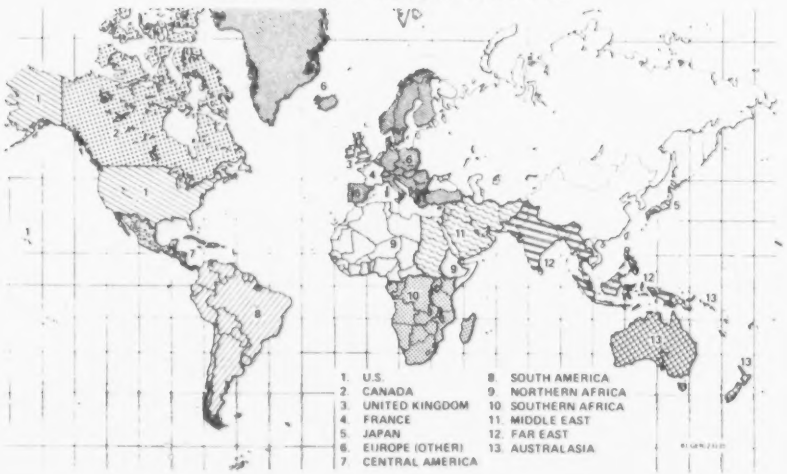
INTERNATIONAL REGIONAL TRAFFIC FLOW


1. NORTH AMERICA – SOUTH AMERICA
2. NORTH AMERICA – CENTRAL AMERICA
3. NORTH ATLANTIC
4. MID ATLANTIC
5. SOUTH ATLANTIC
12. WITHIN NORTH AMERICA
13. WITHIN CENTRAL AMERICA
14. WITHIN SOUTH AMERICA

INTERNATIONAL REGIONAL TRAFFIC FLOWS



DOMESTIC REGION TRAFFIC

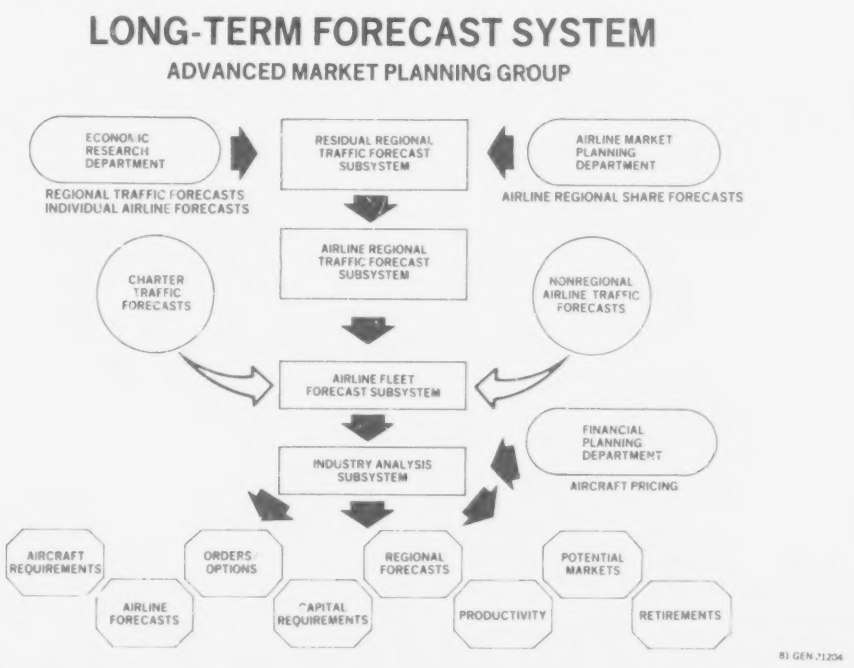


TRAFFIC FORECAST

APPROACH

Because capacity and fleet requirements depend directly on traffic demand, a considerable proportion of the long-term planning effort was dedicated to producing passenger and cargo traffic forecasts for the 201 carriers in the study. Following IATA definitions, historical scheduled air traffic for approximately 160 carriers was divided into 19 international regional flows plus 13 regional areas representing domestic service. Econometric models (see Appendix B, Econometric Approach) were used to forecast the growth of each regional traffic flow and of each domestic region in terms of annual scheduled revenue passenger-kilometers and scheduled revenue tonne-kilometers for each study year*.

Econometric models and Airline Market Planning models were used to forecast the regional traffic growth for approximately 50 major carriers in terms of annual scheduled revenue passenger-kilometers.



In order to forecast the regional growth of each of the remaining carriers (approximately 110) having historical scheduled regional traffic, the residual traffic for each region was calculated as the difference between the macro-level regional forecast and the total of the major carrier regional forecasts. This residual traffic was then allocated to the 110 carriers on the basis of expected market share within each region in which a particular airline operates. This participation level

*For a detailed presentation of the economic forecast results, refer to Report No. C1-805-6514A, 'Outlook for the Eighties', February 1981, available from the Economic Research Department, Douglas Aircraft Company.

was based on estimates of the airline's historical involvement in the region and modified by information on planned changes in the future activities of the carrier or its competitors.

After determining the regional scheduled traffic for these carriers, the traffic was accumulated to obtain each carrier's total system scheduled traffic.

Nonscheduled traffic for these carriers was forecast at the total system level, with consideration given to the expected long-term trend of charter service gradually declining as a percentage of total service for each carrier.

For the remaining carriers in the study (approximately 40) that are essentially charter operators or for which historical scheduled regional traffic was not available, total system traffic was forecast from historical trends to grow at rates somewhat lower than for the scheduled carriers.

In order to convert passenger traffic demand projections into capacity requirements which future aircraft fleets must provide, it was necessary to project both scheduled and charter load factors for each airline in the study. Scheduled load factors were based on econometric projections of system-wide load factors for a selected set of carriers and, in general, reflect a gradual increase in load factors throughout the eighties with more stabilized load factors in the nineties. Load factors for charter service were maintained at the high levels typical of this sector of airline traffic.

SUMMARY OF THE TRAFFIC FORECAST

Although the growth of the world commercial air transportation industry is not expected to continue at the high rates of previous decades, moderate rates are expected as the result of healthy growth in international markets where alternate forms of passenger transportation are essentially nonexistent. Having recently experienced a very severe downturn in traffic growth, the world's airlines seem to be entering a recovery period. Although the projected growth rate for 1981 of 4 percent hardly seems a recovery, the forecast increase of 373 billion revenue passenger-kilometers (RPK) by 1985, over the 1980 level, is roughly equivalent to the entire air traffic of 1970 (ICAO excluding USSR and PRC). The phenomenon of large traffic increases is even more evident over the 15 years where, by 1995, a 6.5 percent average annual growth rate translates into a traffic increment of 1600 billion RPKs (a 155-percent increase over the total world 1980 traffic level).

The combined international and domestic operations of the U.S. carriers in the study resulted in a 4.2-percent decline in traffic during 1980 in comparison with a 6.3-percent traffic increase for non-U.S. carriers. For U.S. carriers, this dismal statistic is not exactly alleviated by a projected no-growth year during 1981; however, on the bright side is the fact that the U.S. industry is starting to show early signs of recovery and by year-end could exceed the projection. Also contributing to this brighter future is the fact that even with modest projected growth rates, 1985 U.S. traffic is expected to be more than 25 percent greater than today's traffic level.

During 1980 the combination of reduced traffic growth, delivery of more than 400 new jet aircraft and difficulty in retiring older, less efficient aircraft resulted in the first decline of all-services passenger load factors since 1975. Worldwide load factors are expected to increase throughout the eighties while load factors for U.S. carriers will increase throughout the forecast. The historically high load factors of 1979 are expected to be reached by 1985 and by the end of the forecast the industry average will have reached 68 percent.

COMPARISON WITH THE 1980 FORECAST

A year ago the growth in world traffic for 1980 was estimated to be 6 percentage points below the 1971-1979 average annual rate. Traffic flown by U.S. carriers was forecast at 9 percentage points below the historical average. In actuality, the world's traffic was down 9 percentage points and the U.S. traffic was down almost 12 points compared with these averages.

An examination of the traffic statistics indicates that the greatest difficulty was the nonmodeled forecast for charter service rather than the econometric model forecast for scheduled service. World charter traffic, which had been forecast to increase, declined for the second consecutive year. U.S. charter traffic, which had been forecast to increase at 4 percent, declined by 24 percent, the third consecutive declining year.

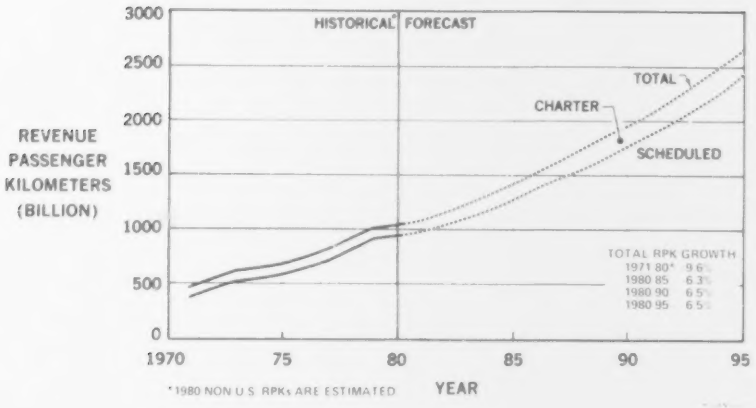
Despite these rather gloomy results for 1980, there is empirical evidence that would seem to indicate that the 1980 slump was no more than an adjustment period following the high growth years, 1978 and 1979. In fact, 1980 appears to be very close to a long-term trend curve based on 1950-1980 ICAO data.

Based on econometric models, the long-term world and U.S. growth rates over 1980-1994 have remained essentially the same since last year's forecast, although the world revenue passenger-kilometer (RPK) estimate for 1994 is 3 percent below last year's forecast. In the U.S., the RPK estimate for 1994 is down a little more than 1 percent.

The major long-term difference in load factors between the two forecasts is that this year's U.S. forecast shows load factors increasing throughout the forecast period to 69.6 percent, as compared with the last forecast which stabilized load factors for the U.S. at 68.5 percent by 1990.

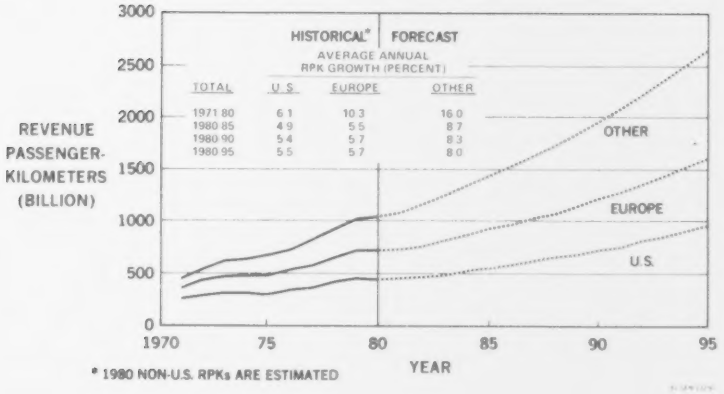
TOTAL WORLD PASSENGER TRAFFIC

ANALYSIS OF 201 AIRLINES



- 1980 estimated all-service world traffic grew at only 1.7 percent (2.4 percent for scheduled traffic and −3.5 percent for charter traffic).
- 1981 traffic growth is forecast at 4 percent followed by a 7.5-percent increase in 1982.
- Long-term scheduled traffic growth is forecast at 6.6 percent annually versus 5.1 percent annually for charter traffic.

PASSENGER TRAFFIC — ALL SERVICES



- All-service traffic carried by U.S. airlines in international and domestic service declined by −4.2 percent in 1980 (−2.9-percent scheduled and −24.3-percent charter).
- The forecast is for no growth in 1981 in the U.S. followed by a 6.8-percent increase in 1982.
- 1980 all-service traffic carried by European airlines increased 2.8 percent compared with 9.4 percent for other non-U.S. carriers.
- Long-term non-U.S. traffic is forecast to increase 7 percent annually.

TRAFFIC (RPKs) GROWTH AND AREA SHARE

BY DOMICILED AREA

DOMICILED AREA (AIRLINES OF:)	AVERAGE ANNUAL GROWTH (%)				AREA SHARE (%)			
	1971-80	1980-85	1980-90	1980-95	1980	1985	1990	1995
AFRICA	14.2	7.4	7.0	6.5	2.8	2.9	2.9	2.8
CANADA	11.7	6.8	7.0	6.9	4.5	4.6	4.7	4.7
MIDDLE EAST	16.4	10.1	9.3	8.9	4.1	4.9	5.4	5.8
LATIN AMERICA	14.6	10.4	9.7	9.2	5.8	7.1	7.9	8.6
PACIFIC AND ASIA	18.5	8.4	8.0	7.7	14.9	16.4	17.1	17.7
EUROPE	10.3	5.5	5.7	5.7	26.7	25.7	24.9	24.2
U.S.	6.1	4.9	5.4	5.5	41.2	38.5	37.1	36.2
WORLD	9.6	6.3	6.5	6.5	100.0	100.0	100.0	100.0

- Near-term U.S. and European growth rates appear lower than long-term rates because of the inclusion of the relatively low 1981 rates.
- Above average growth in the Middle East and Latin America is closely related to the oil industries in these regions.

CHARTER TRAFFIC (RPKs) AS A PERCENT OF TOTAL TRAFFIC

BY DOMICILED AREA

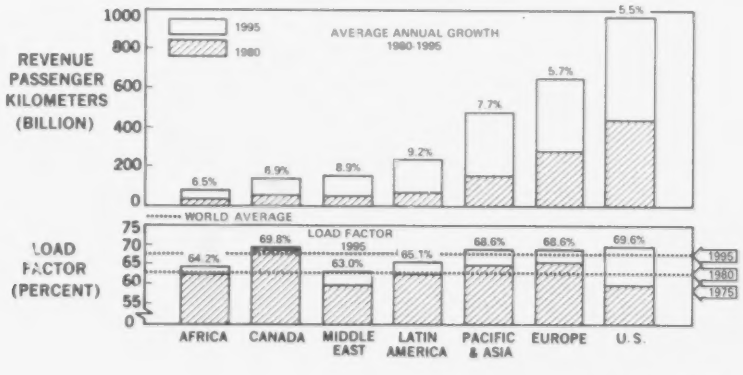
DOMICILED AREA (AIRLINES OF:)	ACTUAL		EST	FORECAST		
	1971	1975	1980	1985	1990	1995
AFRICA	8.2	9.7	8.4	8.2	7.5	7.3
CANADA	12.5	19.9	22.5	23.6	23.2	22.5
MIDDLE EAST	6.2	4.3	3.4	2.8	2.5	2.2
LATIN AMERICA	1.1	2.4	2.4	2.0	1.7	1.5
PACIFIC AND ASIA	4.5	3.3	1.2	1.1	1.0	1.0
EUROPE	21.5	30.3	26.6	25.9	24.9	23.6
U.S.	13.5	10.3	4.6	4.9	4.4	4.0
WORLD	14.1	15.0	10.7	10.3	9.6	8.9
WORLD CHARTER RPKs (BILLION)	64.1	101.5	111.4	145.9	186.8	235.6

- Declining charter traffic in the U.S. is the result of a low fare differential which makes most charter aircraft uneconomical at any load-factor.
- European and Canadian traffic is expected to retain its high proportion of charter service under the assumption that fare differential and seasonality traditions will be maintained.
- 34 percent of the 1980 U.S. traffic decline was from the charter sector.

ALL-SERVICE TRAFFIC (RPKs) AND LOAD FACTORS

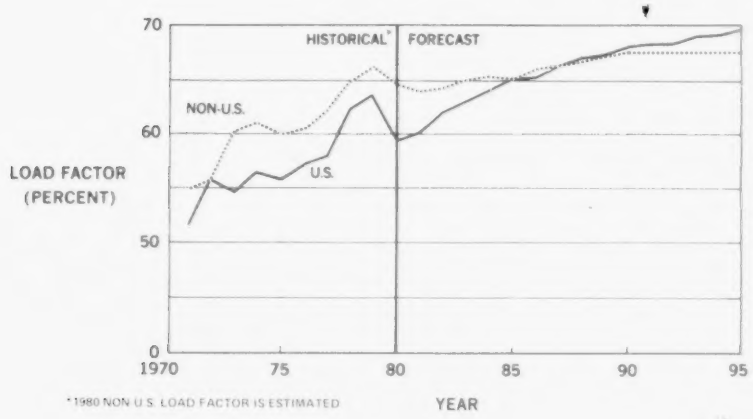
BY DOMICILED AREA

1980-1995



- Traffic carried by European airlines by 1995 will be 50 percent greater than the 1980 traffic carried by U.S. airlines.
- 1995 traffic carried by Middle-East and Latin American carriers will be 3 to 4 times as great as their 1980 levels.
- Relatively high 1980 load factors for European and Canadian carriers result from the high level of charter service.

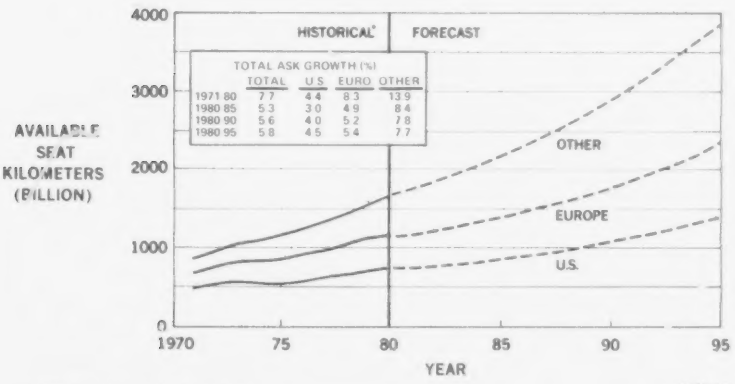
AVERAGE PASSENGER LOAD FACTOR



*1980 NON U.S. LOAD FACTOR IS ESTIMATED

- 1980 U.S. carriers' load factors declined by 4.1 percentage points compared with a decline of 1.6 percentage points for non-U.S. carriers.
- Because of operating constraints (cost, frequency, fare levels), the load factors for all carriers will increase throughout the forecast with a U.S. deregulated environment dictating above average increases.

CAPACITY (ASK) REQUIREMENT-ALL-SERVICES



*1980 NON U.S. ASKs ARE ESTIMATED

- 1980 world estimated all-service ASKs grew 6.1 percent (non-U.S. at 9.0 percent and U.S. at 2.5 percent).
- Over the next 15 years, adequate air service will require more than 2.3 times today's available capacity.
- Over the same period, available capacity will increase about 89 percent as fast as traffic, reflecting increasing load factors.

CAPACITY FORECAST
CHEVRON

CAPACITY FORECAST

APPROACH

After overall airline capacity needs in terms of available seat-kilometers had been forecast, an analysis was made to project the length of service of existing aircraft and to determine the impact of aircraft orders and options placed for future delivery. Aircraft retirements estimated as part of the detailed analysis of individual airlines were based on considerations of route system, equipment age, noise regulations, and economic productivity. As a general rule, it was assumed that DC-8-61 and -63 series aircraft would be re-engined and most noncomplying DC-9s and 727-200s would be quieted to permit a normal lifetime of use. It was further assumed that 707s, standard-size DC-8s, and 727-100s would be retired by the mid-1980s from U.S. and many foreign carriers due to their noncompliance with noise regulations and decreasing economic performance resulting from rising fuel prices. It was assumed that very few wide-body aircraft beyond those already scheduled for retirement would be retired during the 1981 to 1995 period, even though some will be almost 25 years old.

A determination of the impact of available retired aircraft on future aircraft requirements is accomplished at a total industry, versus individual airline level, by assuming that a percentage of each different aircraft type will be sold to other carriers within the study group. These "retained" aircraft are assumed to remain in the fleet for an additional five years before being permanently retired, with the exception of retired wide-body aircraft (other than the 747-100) which are retained throughout the forecast.

All known firm and conditional firm orders through February 1981 were included in the airline fleets. Most options were also included; however, some options were deleted if it were felt that delivery timing or the aircraft selection did not best meet the airline's expected needs and, therefore, the airline would probably not convert the option to a firm order. To assist in the fleet analysis, ordered and optioned aircraft were grouped into "generic" classifications (see Appendix A, Definitions).

In addition to the retirements, orders and options, productivity factors (i.e., utilization, block speed, seat capacity) were projected for the study period. In general, it was assumed that the productivity of existing aircraft would remain constant at 1980 values, except for those airlines expecting significant productivity improvements.

The difference between the capacity required by an airline and the capacity available in the future from aircraft on hand and on order resulted in a capacity gap.

SUMMARY OF THE CAPACITY FORECAST

Required capacity as measured by available seat-kilometers (ASK) was forecast to grow at a rate less than revenue passenger-kilometers, as is evident from the forecast for continually increasing load factors. By 1995, total capacity required will approach 3900 billion ASKs or more than 2.3 times available capacity in the world today.

In general, retirements for each airline were accelerated throughout the early 1980s to reflect the problems with noise and economic operations experienced by much of today's fleet. However, as these aircraft are replaced by fuel efficient, quiet, more productive aircraft, the retirement rate from 1988 on is substantially below the average of the 1970s. Overall the rate at which aircraft are retired during the forecast period, 4.2 percent of previous year-ending fleet, is just slightly below the 4.4 percent rate of the 1970s. Retirements through 1995 reduce the capabilities of today's fleet by 41 percent of ASK capacity and 70 percent of aircraft units, although this retired capacity is only 18 percent of the total capacity required in 1995.

The airlines' efforts to replace less efficient aircraft and meet traffic growth has already resulted in the placement of orders and options for almost 1700 aircraft for delivery during the 1980s. The combination of capacity made available by these orders/options, plus capacity provided by today's aircraft remaining in service, amounts to over 40 percent of the total 1995 capacity requirement. The primary purpose of the long-term forecast is the determination of the aircraft types (and numbers) that will be likely candidates to fill the remaining 60 percent of the capacity requirement.

An airline's productivity (measured in available seat-kilometers generated) is a function of the productivity of its constituent aircraft types and the mix of these types in the airline's fleet. During the forecast the average productivity will increase because of the addition of new aircraft relatively larger than those being replaced, not because aircraft were flown additional hours — in fact, hours were held essentially constant throughout the forecast for each aircraft type. Between 1981 and 1995 the changing fleet mix resulted in a 62-percent improvement in productivity per average passenger aircraft.

COMPARISON WITH THE 1980 FORECAST

No significant changes were made in the guidelines for retirements as is evident from the fact that retirements as a percentage of the total world's fleet have remained unchanged between the two forecasts. At first glance, order and option data also appear unchanged because the total count for both forecasts was approximately 1700. However, an examination of the aircraft types involved indicates less emphasis on long-range aircraft, with 74 fewer units on the books in 1981, and more emphasis on wide-body, medium-range aircraft, with 50 more units on the books than in 1980. Orders and options for Short-Range 110 and 160 class aircraft remained essentially unchanged.

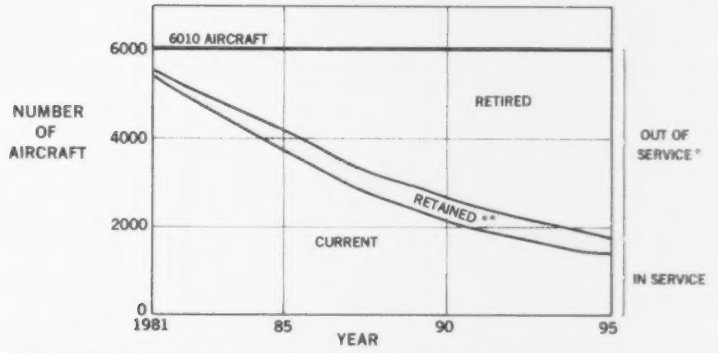
In line with the forecast of a reduced requirement for capacity in 1994 over last year's forecast, the total fleet capacity provided in 1994 will be 3.5 percent less than was forecast a year ago.

CAPACITY ANALYSIS

PASSENGER AIRCRAFT

EFFECTS OF RETIREMENT ON 1980 FLEET

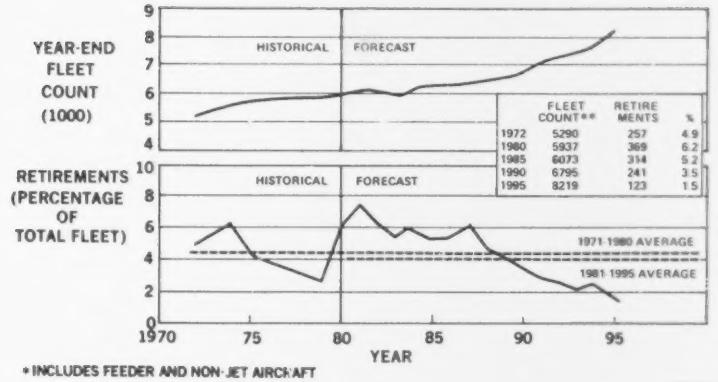
6010 AIRCRAFT IN YEAR-END 1980 FLEET



*SOLD/LEASED TO CARRIERS OUTSIDE OF THE STUDY GROUP OR PERMANENTLY GROUNDED
**SOLD/LEASED TO CARRIERS WITHIN THE STUDY GROUP

- Retained aircraft are assumed to remain in service for five years before being permanently retired.
- Wide-body aircraft are retained throughout the forecast with the exception of the 747-100.
- The retained/retired ratio ranges from 20 percent in the early 1980s to 10 percent at the end of the forecast.
- 30 percent of the 1980 fleet will be retired over the next 5 years — 70 percent by 1995.

RETIREMENTS AS COMPARED WITH YEAR-END FLEET COUNT*



	FLEET COUNT**	RETIREMENTS	%
1972	5290	257	4.9
1980	5937	369	6.2
1985	6073	314	5.2
1990	6795	241	3.5
1995	8219	123	1.5

*INCLUDES FEEDER AND NON-JET AIRCRAFT
**FLEET COUNT AS OF 1 JANUARY

- The forecast 4 percent overall fleet retirement figure closely parallels the historical rate but appears to have a longer cycle.
- Significant trends, i.e., airline amalgamation, high proportion of growth in the international area, and accompanying use of larger, longer range aircraft, may alter retirement plans.
- Near-term changes in the forecast relating to fuel prices and re-engining programs could change the timing of the retirements; however, the number of units retired over the 15-year forecast period would not change significantly.

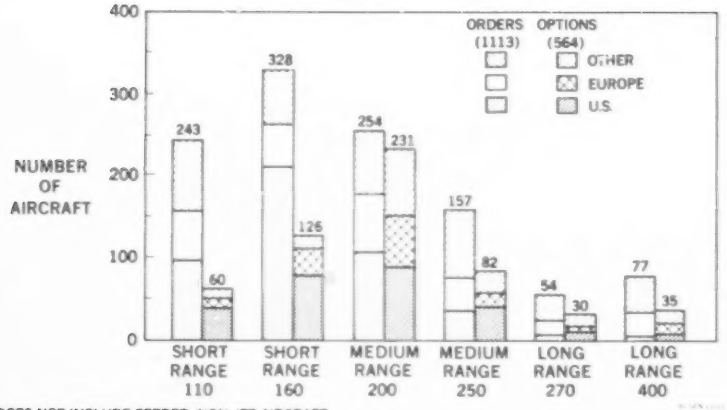
CAPACITY ANALYSIS (CONTINUED)

PASSENGER AIRCRAFT

ORDERS AND OPTIONS

BY GENERIC CLASS *

1981-1995



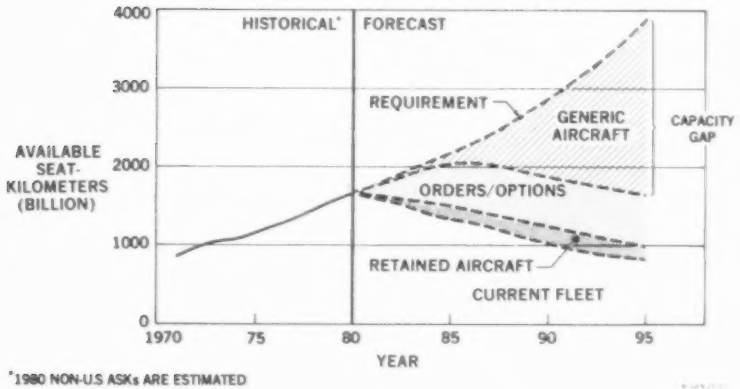
*DOES NOT INCLUDE FEEDER/NON-JET AIRCRAFT

- The U.S. has 53 percent of the orders and 61 percent of the options for the Short-Range 110 and 160 classes.
- Carriers domiciled outside of the U.S. and Europe have placed 60 percent of the orders and 49 percent of the options for long-range aircraft.
- European carriers have ordered or optioned approximately a third of the aircraft, evenly distributed between short-, medium- and long-range.
- The number of orders and options on the books has remained essentially unchanged over the last year.

PASSENGER AIRCRAFT

CAPACITY SUPPLY FORECAST

ALL-SERVICES — WORLD



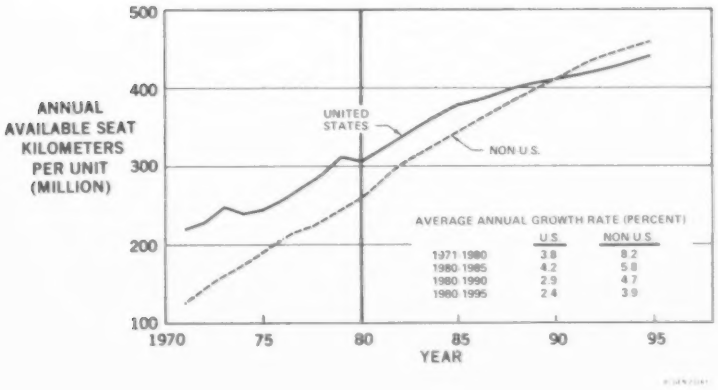
*1980 NON-U.S ASKs ARE ESTIMATED

- Beginning in 1986, and for each year thereafter, between 70 and 100 percent of additional capacity will have to be provided by generic aircraft.
- Of the total capacity requirement over the next 15 years, almost 60 percent is not yet on the books.
- 23 percent of additional capacity is for replacement of retired aircraft and the rest is for growth in the industry

CAPACITY ANALYSIS (CONCLUDED)

PASSENGER AIRCRAFT

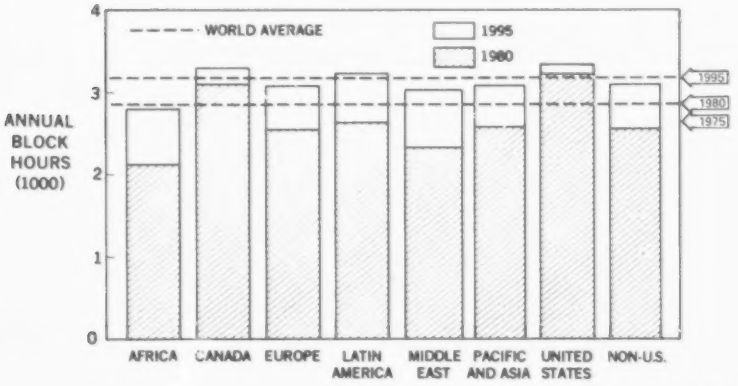
PRODUCTIVITY GROWTH



- ASK growth is primarily due to the addition of larger aircraft in a more productive fleet mix, i.e., seating capacity increases account for 65 percent of the total productivity increase.
- In 1980, the average aircraft operated by U.S. carriers was 18 percent more productive in terms of ASKs per unit than its non-U.S. counterpart.
- Non-U.S. aircraft fly 10 to 15 percent more seats per aircraft than their U.S. counterparts, and utilization is increasing at a faster rate due to the changing fleet mix which emphasizes relatively larger and longer range aircraft.
- The decrease in U.S. aircraft productivity in 1974 and 1980 was the result of the carriers' response to rapid increases in fuel prices.

PASSENGER AIRCRAFT

AVERAGE UTILIZATION PER AIRCRAFT

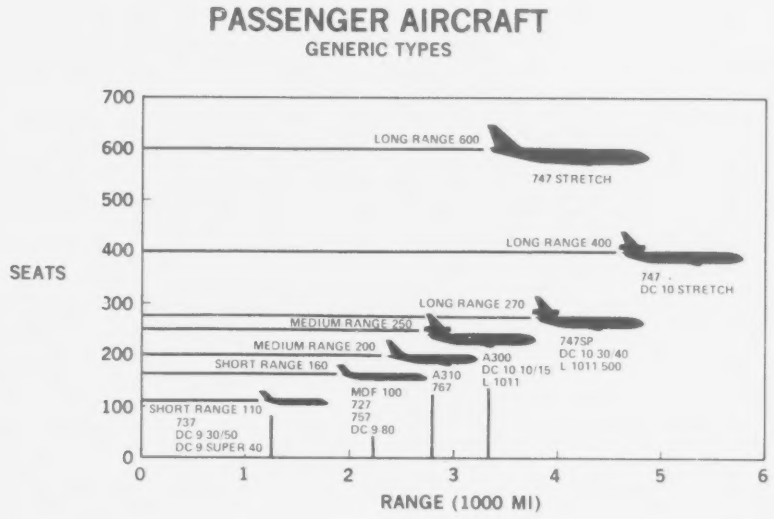


- Due to the existence of an efficient, relatively long-range domestic system, utilization of aircraft by U.S. and Canadian carriers is expected to improve 3 to 6 percent over the forecast period as compared to a 21 percent increase for aircraft operated by other carriers whose systems are characterized by an increase in international markets.

FLEET FORECAST

APPROACH

The capacity gap which results from the difference between the capacity required by an airline and the future capacity available from aircraft on hand and on order is satisfied by combinations of generic classes of passenger aircraft (see Appendix A, Definitions).



The appropriate combination of generic types for each airline was determined based on a variety of fleet planning factors:

Aircraft assignments

- Where different types are used
- Changes in future usage
- Historical percentages of fleet capacity

Carrier route structure

- Existing routes
- New route expansion

Carrier equipment actions

- Purchases and options
- Retirements
- Configuration changes

Fleet planning analysis

- Douglas studies
- Carrier fleet plans
- Sales contacts

SUMMARY OF THE FLEET FORECAST

The industry-wide aggregation of generic aircraft, which were allocated for each airline to meet its additional capacity requirements, indicated a requirement for more than 5000 jet aircraft over the next 15 years, a requirement which was reduced to 4654 aircraft by the retention of certain retired aircraft. This market for generic aircraft is dominated by those aircraft that were expected to provide service over markets currently served by DC-9, 737, 727 and BAC-111 aircraft — i.e., almost 60 percent of the total generic jet aircraft market, or more than 2700 units, are required. Medium- and long-range wide-body aircraft approximately split the remaining 40 percent.

This dominance, as measured by units, of the Short-Range 110 and 160 class aircraft was also apparent when the entire 1995 industry fleet of 8600 aircraft was considered. These two classes represented 47 percent of the total with medium-range (25 percent), long-range (20 percent) and feeder (8 percent) making up the balance.

A different perspective of the relative importance of the various aircraft classes is obtained by comparing capacities in terms of available seat-kilometers rather than units. Using this measure, by 1995 the short-range aircraft are expected to contribute 27 percent, the medium-range 27 percent, and the long-range class 45 percent of the total. The combined Short-Range 110 and 160 figure represents a decline from the 36 to 38 percentage experienced during the period 1971-1980, almost all of the drop occurring in the Short-Range 110 class. The expected change is due to the continuing upward pressure exerted on average seat size by the combined effect of traffic growth, frequency growth constraints, and economic factors projected through the forecast period. This pressure translates into a continuing shift, in relative terms, from the Short-Range 110 to the Short-Range 160, and, in turn, from the Short-Range 160 to the Medium-Range 200. The net result is for the Short-Range 160 share of the total available seat-kilometers to remain essentially unchanged through the forecast period.

COMPARISON WITH THE 1980 FORECAST

In addition to a slight reduction in required capacity, significant changes, in both capacity allocated and units required between generic classes, are evident in this year's forecast. The 1980 forecast had the capacity allocated to the Short-Range 110 and 160 class aircraft declining from 38 percent of the world's total in 1980 to less than 22 percent by 1994. Because this low percentage does not provide for adequate replacement nor reasonable growth in this market, this year's forecast has increased the percentage of capacity allocated by 1994 to 28 percent. The result is a 133-percent increase in the number of additional (generic plus orders and options) Short-Range 110 units and a 12-percent increase in the number of additional Short-Range 160 units between 1981 and 1994.

The percentage of capacity allocated to the Medium-Range 200 and 250 class aircraft declined very slightly (about 1 percent); however, in combination with significant productivity increases for this aircraft size, the results were a 14-percent reduction in the number of additional units required.

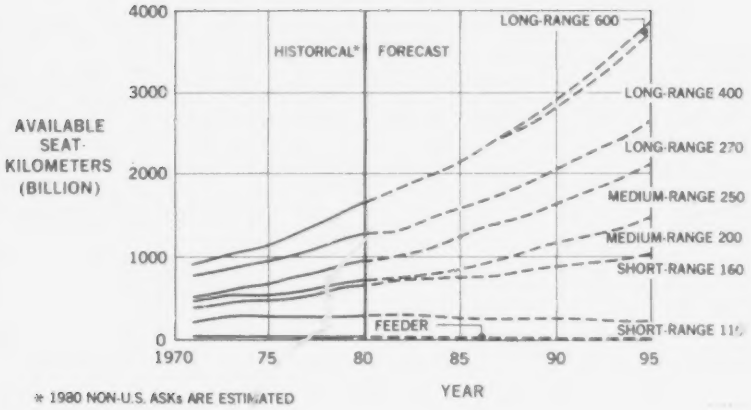
Long-range aircraft experienced an even larger decline, with 22 percent fewer additional units required between 1981 and 1994. The percent of capacity provided by Long-Range 270 type aircraft is expected to decline from 20 percent in 1980 to 14 percent by 1994, essentially the same reduction as was forecast a year ago. The biggest change occurs in the Long-Range 400 class where the capacity percentage had been forecast to increase from 23 percent in 1980 to 35 percent by 1994. This year's forecast reduces the 1994 share to 28 percent and allocates an additional 2.6 percent for the Long-Range 600 class aircraft.

Although there was an approximately 3 percent increase in the passenger jet aircraft units required, the greater number of relatively smaller aircraft in this year's fleet mix reduced the capital requirement for 1981-1994 by 5 to 10 percent.

PASSENGER AIRCRAFT

CAPACITY TREND

BY GENERIC CLASS



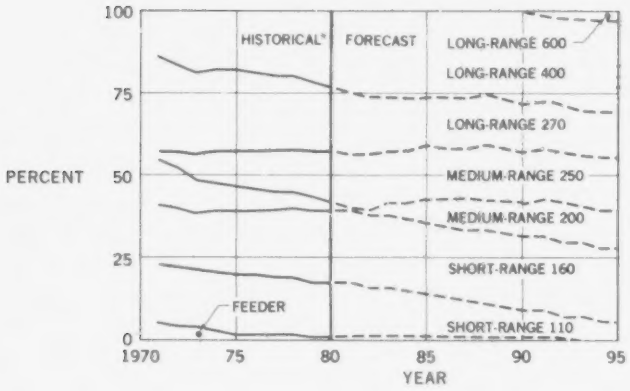
* 1980 NON-U.S. ASKs ARE ESTIMATED

- The Medium-Range 200 class of aircraft is an example of almost complete replacement of existing aircraft by new generation aircraft.
- The Long-Range 600 is introduced for the first time in the forecast as a generic aircraft.

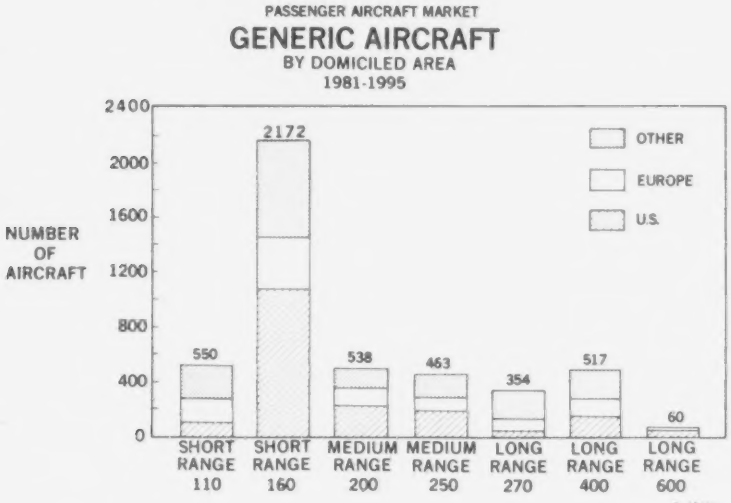
PASSENGER AIRCRAFT

CAPACITY PERCENTAGES

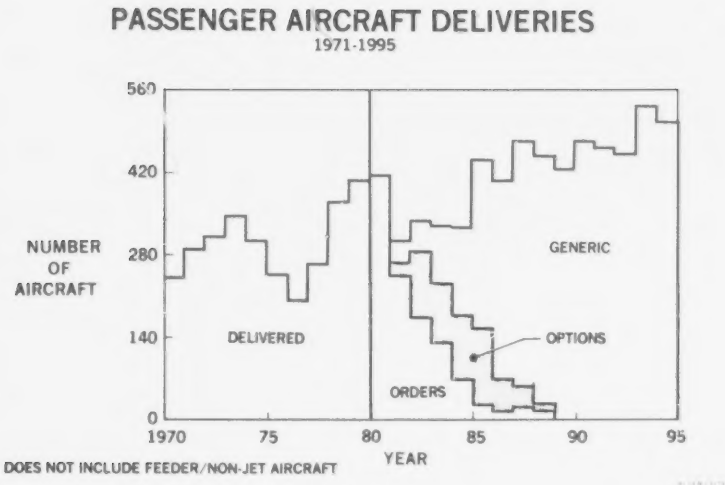
BY GENERIC CLASS



- The capacity provided by generic aircraft remains approximately divided between short- to medium-range aircraft and long-range aircraft.
- Short-Range 110 and 160 capacity is reduced from 38 percent to 27 percent of the total during the forecast period.



- The U.S. demand accounts for 45 percent of the total world short- and medium-range generic aircraft requirement and 22 percent of the long-range requirement.
- Short- and medium-range aircraft account for 89 percent of the U.S. total generic requirement and 74 percent of the non-U.S. requirement.
- The "Other" category accounts for 50 percent of the total passenger aircraft requirement for long-range generic aircraft.



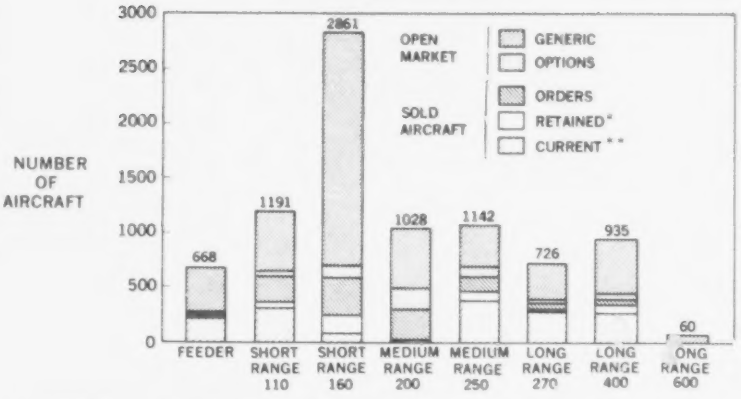
- To provide the total capacity required by 1983, almost 1100 aircraft need to be delivered, for which less than 850 orders have been placed.
- Total aircraft already ordered represent less than 18 percent of total deliveries required over the next 15 years.

FLEET ANALYSIS (CONCLUDED)

PASSENGER AIRCRAFT

1995 FLEET COMPOSITION

BY GENERIC CLASS



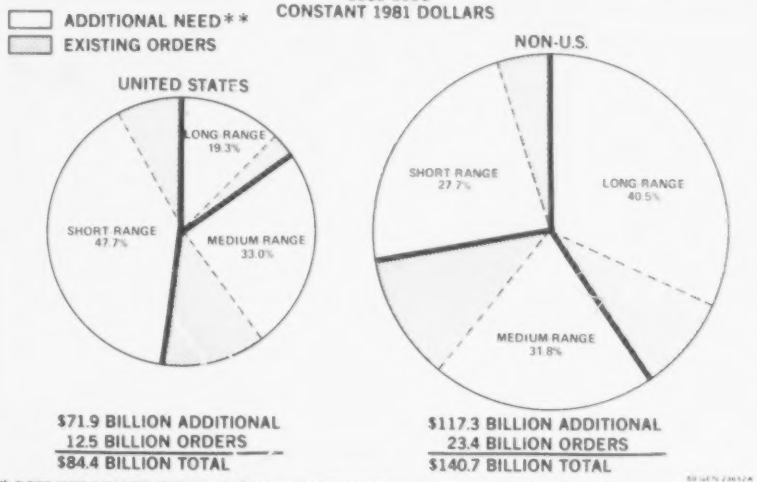
* CURRENT AIRCRAFT SOLD/LEASED TO OTHER CARRIERS WITHIN THE STUDY GROUP

** AIRCRAFT IN SERVICE AS OF 12/31/80

- Approximately 65 percent of the units needed by 1995 have not yet been sold – i.e., they present an open market.
- The Short-Range 160 generic class represents 41 percent of the total open market but produces only 22 percent of total 1995 capacity (ASK). The Long-Range 400 class represents less than 10 percent of the open market but almost 29 percent of capacity.

NEW PASSENGER AIRCRAFT CAPITAL REQUIREMENTS*

1981-1995
CONSTANT 1981 DOLLARS



$71.9 BILLION ADDITIONAL
12.5 BILLION ORDERS
$84.4 BILLION TOTAL

$117.3 BILLION ADDITIONAL
23.4 BILLION ORDERS
$140.7 BILLION TOTAL

* DOES NOT INCLUDE FEEDER/NON-JET AIRCRAFT, BAC 1-11, F-28, OR RUSSIAN AIRCRAFT

** OPTION PLUS GENERIC AIRCRAFT

- Over the next 15 years, $225 billion (constant 1981 U.S. dollars) in capital will be needed to purchase the more than 6300 new passenger jet aircraft that will be required.
- $36 billion of this total is necessary to purchase the more than 1100 orders already placed.
- To meet this capital requirement for aircraft, airlines will rely heavily on internal cash generation.

S H

CARGO FORECAST

APPROACH

Scheduled cargo traffic was forecast using econometric models for each of the 19 international and 13 domestic IATA defined regions in terms of total revenue tonne-kilometers (RTK) and RTKs carried in "all-freight" service by aircraft dedicated to cargo service. Based on expected market shares for all airlines operating within each of the regions, individual airline regional cargo forecasts were developed. Accumulation of this regional traffic for each airline resulted in total system scheduled cargo traffic.

Nonscheduled freight traffic for each carrier was assumed to be all-freight cargo traffic and was forecast at rates below those for scheduled service.

Projections of combined all-service, all-freight RTKs were used as the measure of "capacity" because of the unavailability of available tonne-kilometer (ATK) data.

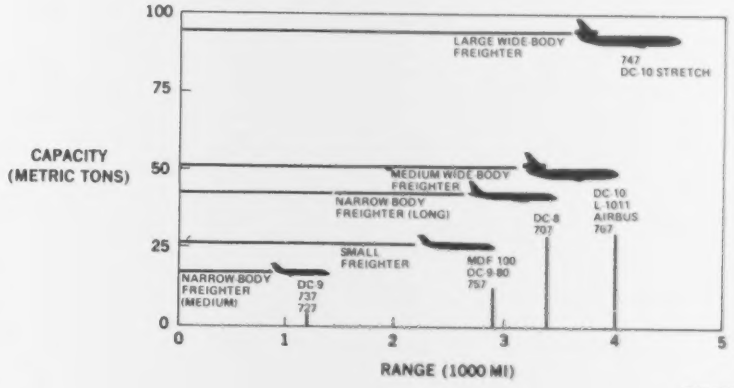
Near-term cargo aircraft retirements were estimated, as part of the detailed analysis of individual airlines, to reflect the relatively high level of aircraft retirements over the next five years due to equipment age, noise regulations, and economic productivity. Based on the assumption that the more productive aircraft will be re-engined or fitted with "hush" kits, there are only a few retirements of cargo aircraft from 1986 through 1995.

In addition to retirements, orders and options, productivity factors (i.e., utilization, block speed, cargo density, cargo volume, and cargo load factor) were projected for the study period. In general, these factors were assumed to remain constant at 1980 levels.

The cargo "capacity gap" was calculated as the difference between the all-service, all-freight RTKs required by the airline and the RTKs available in the future from aircraft on hand and on order.

This gap is satisfied by combinations of five generic types of cargo aircraft based on a variety of fleet planning factors (see Appendix A, Definitions).

CARGO AIRCRAFT
GENERIC TYPES



Generic freighter units were calculated with the assumption that they would be dedicated to cargo 100 percent of the time. In actuality, all-freight service is characterized by the use of a large number of convertible-freighters which may be used in passenger as well as cargo service. Consequently, the actual number of aircraft required to fulfill the RTK requirement will be greater than the generic units shown. How much greater will be more closely forecast when the effectiveness of the new generation aircraft as freighters and convertible-freighters can be determined.

SUMMARY OF THE CARGO FORECAST

During the 1970s, the cargo sector of the air transportation industry grew at the very moderate rate of slightly more than 8 percent per year as compared with more than 9.5 percent per year for the passenger sector. During the forecast period, these relative positions are expected to be reversed as cargo traffic, in revenue tonne-kilometers (RTK), is expected to increase 7.7 percent annually which, by 1995, will result in over three times the number of RTKs flown in 1980.

An examination of the all-freight portion of cargo traffic, in contrast to the belly-pit portion, shows a projected growth rate of about 7 percent annually, which will result in a slight drop, from 39 percent to 36 percent, in the percentage of cargo traffic flown in all-freight service over the life of the forecast.

The dominance of the all-freight service by large wide-body freighters is expected to continue. In 1980 these aircraft, comprising 15 percent of the units, flew 50 percent of the all-service, all-freight RTKs. By 1995, the comparable figures will be 28 percent of the units and 57 percent of the RTKs. The next largest share of the all-freight RTKs will be a 30-percent share provided by the medium-capacity, wide-body freighter class, which will provide 33 percent of the units.

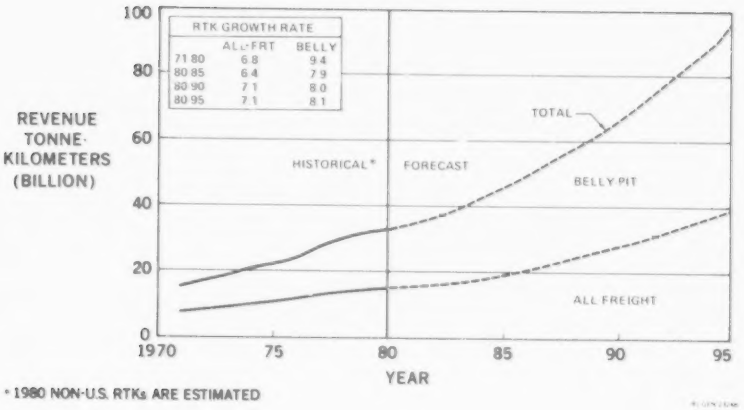
COMPARISON WITH THE 1980 FORECAST

The major difference between forecasts is that last year's forecast of revenue tonne-kilometers (RTK) and required fleet was accomplished at an industry level, in comparison with this year's forecast which was at an individual airline level, similar to the passenger traffic and fleet forecast.

When compared with last year's forecast, the world total cargo traffic by 1994 is down by 7 percent. An even greater difference is the percent of total cargo to be carried in all-freight aircraft. Last year, the forecast was for the share to decline from 45 percent in 1979 to 32 percent by 1994. The results of the airline-by-airline forecast indicate this share will be 41 percent by 1994. These increased all-service, all-freight RTKs will require more freighters and convertible-freighters than previously estimated.

The 15-year generic requirement for the large wide-body freighter remained unchanged from last year; however, the RTKs performed by this class of aircraft were assumed to be 75 percent while this year's forecast indicated 45 to 50 percent is more likely. The remaining RTKs indicate a need for 250 to 300 other generic types as compared with only 126 in last year's forecast.

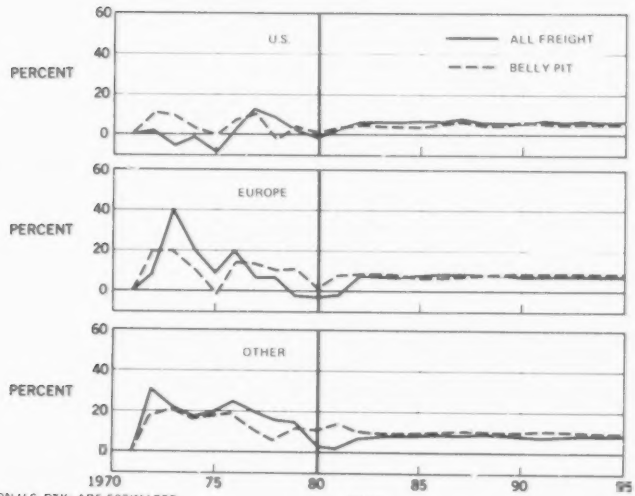
TOTAL WORLD CARGO TRAFFIC



*1980 NON-U.S. RTKs ARE ESTIMATED

- 1980 and 1981 are not good years for cargo traffic as belly-pit capacity is affected by low growth years for passenger service and all-freight capacity is affected by the unavailability of efficient freighter aircraft in the small- to medium-capacity markets.
- The moderate long-term growth is based on stimulation of the cargo market by availability of new generation aircraft and the existing commitment to renovation of cargo terminals and cargo handling equipment.

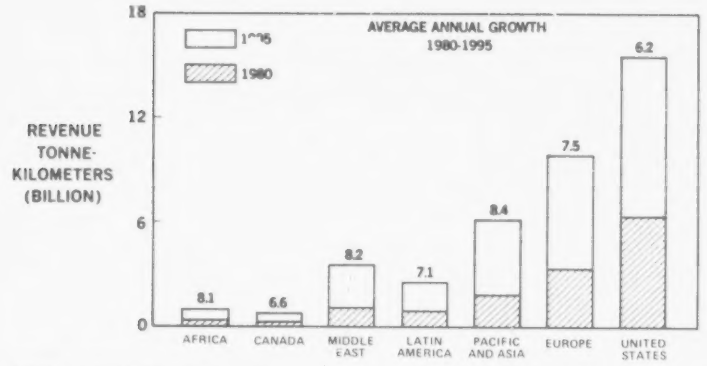
CARGO GROWTH RATES



*1980 NON U.S. RTKs ARE ESTIMATED

- Historically, all-freight traffic has been characterized by time constraints, distance considerations, shipment size, and scheduled service. These factors are forecast to continue, resulting in a significant portion of total cargo being carried as all-freight.

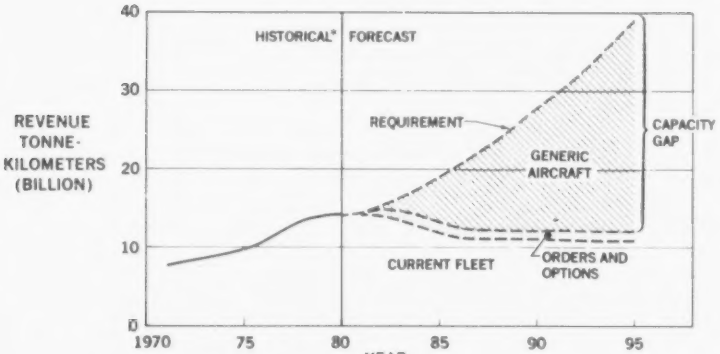
ALL-FREIGHT REVENUE TONNE-KILOMETERS
BY DOMICILED AREA



* NON-U. S. 1980 RTK'S ARE ESTIMATED

- The percent of the U.S. carriers' share of the all-freight market declines from 45 percent in 1980 to approximately 40 percent by 1995.
- Those areas of the world expected to average more than 8 percent growth per year will see a three-fold increase in all-freight RTKs by 1995.

REVENUE TONNE-KILOMETER SUPPLY FORECAST
ALL-FREIGHT



*1980 NON-U.S. REVENUE TONNE-KILOMETERS ARE ESTIMATED

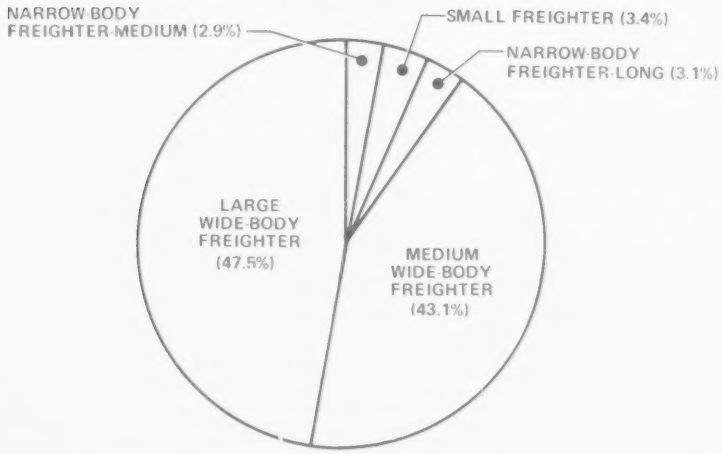
- With few retirements occurring after the last half of the 1980s, the "capacity" added by ordered, optioned, and generic aircraft amounted to 11 percent for retirement and 89 percent for growth.
- Almost 70 percent of the all-freight RTKs required by 1995 will be accounted for by generic aircraft not yet on the books.

CARGO AIRCRAFT

ADDITIONAL ALL-FREIGHT REVENUE TONNE-KILOMETERS

BY GENERIC TYPE

1981-1995



26.8 BILLION REVENUE TONNE-KILOMETERS

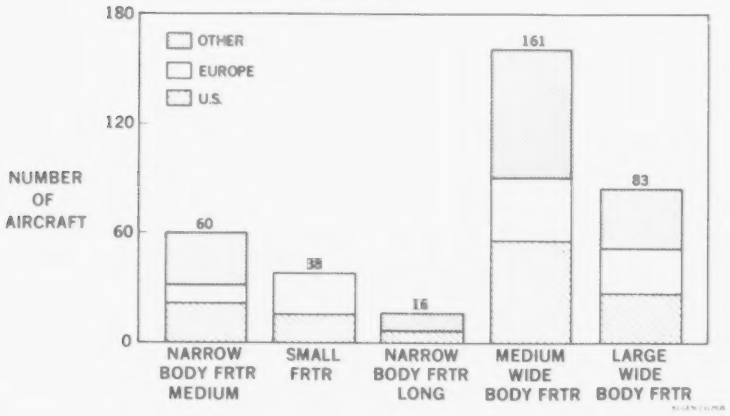
- Of the five generic classes considered for future availability, the dominance of the medium- and large-capacity wide-body freighters reflects the completion of the transition, over long-haul routes, from narrow- to wide-body aircraft.
- The forecast for the medium wide-body freighter is largely the result of the assumption that the high break-even load factor required on the large wide-body will preclude its use on developing medium- to long-range routes. The large wide-body freighter will remain effective over high-density, long-range routes.

CARGO AIRCRAFT MARKET

GENERIC AIRCRAFT

BY DOMICILED AREA

(1981-1995)



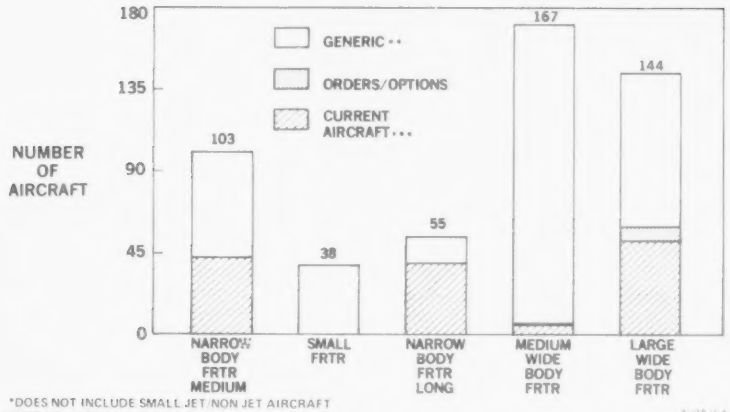
- U.S. and European carriers account for 72 percent of the aircraft in the narrow-body, medium- and small-freighter generic classes, reflecting domestic and intra-European market requirements.
- U.S. and "Other" carriers are forecast to need 78 percent of the medium wide-body freighters and 71 percent of the large wide-body freighters, reflecting longer range, international market requirements.
- The sharing of convertible-freighter aircraft between passenger and cargo service will create a need for more than the 358 aircraft shown, which were assumed to be dedicated to cargo service.

CARGO ANALYSIS (CONCLUDED)

CARGO AIRCRAFT

1995 FLEET COMPOSITION*

BY GENERIC TYPE



*DOES NOT INCLUDE SMALL JET/NON JET AIRCRAFT
**NOT ADJUSTED FOR REDUCTION BY USED AIRCRAFT
***AIRCRAFT IN FLEET AS OF 12/31/80

- The large, as yet unsold, number of medium wide-body freighters reflects the need for a medium- to long-range freighter for use on those routes that will not support the large freighter aircraft.

- Narrow-body freighter aircraft are assumed to be re-engined/reconfigured versions of aircraft in service today.

APPENDICES

APPENDIX A
DEFINITIONS

ALL-FREIGHT SERVICE – Refers to the flights performed by aircraft carrying loads other than passenger – i.e., freight and mail – and excludes all flights carrying one or more revenue passengers and flights listed in schedules as providing any passenger service.

AVAILABLE SEAT-KILOMETERS – The sum of the products obtained by multiplying the number of passenger seats available on each flight stage by the flight stage distance.

BELLY-PIT RTKs – The difference between the total revenue tonne-kilometers (RTK) performed by an airline and the RTKs performed in all-freight service.

CURRENT FLEET – Aircraft on hand as of December 31, 1980

GENERIC AIRCRAFT – An aircraft which broadly defines the seat size and range characteristics of possible future aircraft. For purposes of analysis, the generic classification is also used to group existing or proposed specific aircraft types. The following lists the generic aircraft and their average annual capacity (ASKs in millions) and the table lists all specific aircraft members of each passenger class.

PASSENGER TYPES:

FEEDER – Propeller and turboprop aircraft of any size and jet aircraft with less than 60 seats. (26)

SHORT-RANGE 110 – Low seating capacity (60 to 135) with a range up to 1800 nautical miles. (161)

SHORT-RANGE 160 – Seating from 140 to 180 with a range of 2200 nautical miles. (306)

MEDIUM-RANGE 200 – Primarily a wide-body class with seating capacity to 240 and a range of 2500 nautical miles. (450)

MEDIUM-RANGE 250 – Wide-body class seating up to 270 with a range up to 2500 nautical miles. (575)

LONG-RANGE 270 – A higher-capacity, wide-body class offering 270 to 350 seats with a range up to 5500 nautical miles. (763)

LONG-RANGE 400 – High capacity, wide-body class with seat capacity around 400 and with a range up to 5500 nautical miles. (1207)

LONG-RANGE 600 – Stretched, high capacity, wide-body class with seat capacity around 600 and with a range up to 5500 nautical miles. (1870)

PASSENGER AIRCRAFT BY GENERIC CLASS

SHORT-RANGE 110

BAC-1-11-200
BAC-1-11-300
BAC-1-11-400
737-100
737-200
737-200C
737-200QC
737-300
CARAVELLE 3
CARAVELLE 6N
CARAVELLE 6R
CARAVELLE 10B
CARAVELLE 10R
CARAVELLE 11R
CAAVELLE 12B
DC-9-10
DC-9-10MC
DC-9-10RC
DC-9-20
DC-9-30
DC-9-30CF
DC-9-30RC
DC-9-40
DC-9-50
F-28-1000
F-28-2000
F-28-3000
F-28-4000
F-28-6000
MERCURE
TRIDENT 1C
TRIDENT 1E
TRIDENT 2E
TRIDENT 3B
TU-104
TU-134
YAK-42

SHORT-RANGE 160

A320
BAC-1-11-475
BAC-1-11-500
727-100
727-100C
727-1000QC
727-200
757-100
757-200
DC-9 SUPER 80
MDF 100

MEDIUM-RANGE 200

A310-100
A310-200
707-120
707-120B
707-138
707-138B
707-220
720
720B
767-100
767-200
COMET 4
COMET 4B
COMET 4C
CV-880
CV-990A
DC-8-20
DC-8-30
DC-8-40
SUPER VC-10
TU-154
VC-10

MEDIUM-RANGE 250

A300B-1
A300B-2
A300B-2K
A300B-4
A300B-600
A300C-4
767 STRETCH
DC-8-61
DC-8-61CF
DC-10-10
DC-10-10CF
DC-10-15
L-1011-1
L-1011-100
L-1011-200

LONG-RANGE 270

707-320
707-320B
707-320C
747-420
747-SP
CONCORDE
DC-10-30
DC-10-30CF
DC-10-40
DC-8-50
DC-8-50CF
DC-8-62
DC-8-62CF
DC-8-63
DC-8-63CF
DC-8-63PF
IL-62
IL-86
L-1011-500

LONG-RANGE 400

747-100
747-100SR
747-200
747-200C
757-200CSUD
747-200R
747-200SCD
747-200SUD
DC-10 STRETCH

LONG-RANGE 600
747 STRETCH

FEEDER
ALL OTHER AIRCRAFT

CARGO TYPES (Including convertible-freighters):

NARROW-BODY FREIGHTER-MEDIUM – Currently available versions of DC-9, 737, and 727 new/used freighter and convertible-freighter aircraft with a capacity lift of up to 17 metric tons (19 tons).

NARROW-BODY FREIGHTER-LONG – Currently available versions of DC-8 and 707 used freighter and convertible-freighter aircraft with a capacity lift of up to 42 metric tons (46 tons).

SMALL FREIGHTER – A small-size cargo aircraft (185 cubic meters, 6500 cubic feet) with a range of 2500 nautical miles and a capacity lift of up to 26 metric tons (29 tons). Could include proposed MDF 100, A320, 757, and DC-9 Super 80 class aircraft.

MEDIUM WIDE-BODY FREIGHTER – A medium-size cargo aircraft (350 cubic meters, 12,000 cubic feet) with a range of 3500 nautical miles and a capacity lift of up to 50 metric tons (55 tons). Includes DC-10CF and proposed A300, A310 and 767 class aircraft.

LARGE WIDE-BODY FREIGHTER – A large-size cargo aircraft (670 cubic meters, 24,000 cubic feet) with a range of 4500 nautical miles and capacity lift of up to 95 metric tons (105 tons). Includes 747 and proposed DC-10 Stretch class aircraft.

NONSCHEDULED SERVICE (Revenue) – Charter flights and special flights performed for remuneration on an irregular basis, including empty flights related thereto and "inclusive tours" other than those reported under scheduled services.

RETAINED AIRCRAFT – An aircraft that is retired by its operating carrier and assumed sold or leased to another carrier within the study group. Retired aircraft that are not retained are assumed either sold or leased to carriers outside of the study group or they are assumed scrapped or grounded.

REVENUE PASSENGER-KILOMETERS – The sum of the products obtained by multiplying the number of revenue passengers carried on each flight stage by the flight stage distance.

REVENUE PASSENGER LOAD FACTOR – Revenue passenger-kilometers expressed as a percentage of available seat-kilometers.

REVENUE TONNE – (METRIC TON) KILOMETERS – The sum of the products obtained by multiplying the number of revenue load metric tons carried on each flight stage by the flight stage distance.

ROUTE/AREA DEFINITIONS – These definitions are drawn from the IATA standards.

NORTH AMERICA – Canada and the United States, including Hawaii and Alaska but excluding the Canal Zone, Puerto Rico, and the Virgin Islands.

CENTRAL AMERICA – The Bahamas, Bermuda, Belize, the Canal Zone, Costa Rica, El Salvador, Guatemala, Honduras, the Islands of the Caribbean Sea (including Puerto Rico, Antilles, and the Virgin Islands), Mexico, Nicaragua, and Panama.

SOUTH AMERICA – Argentina, Bolivia, Brazil, Colombia, Chile, Ecuador, Falkland Islands, French Guyana, Guyana, Paraguay, Peru, Surinam, Uruguay, and Venezuela.

NORTH ATLANTIC – Any route between Europe, Africa, or the Middle East and the Western Hemisphere via a gateway in North America.

MID-ATLANTIC – Any route between Europe, Africa, or the Middle East and the Western Hemisphere via a gateway in Central America or the following South American countries: Bolivia, Colombia, Ecuador, French Guyana, Guyana, Peru, Surinam or Venezuela.

SOUTH ATLANTIC – Any route between Europe, Africa, or the Middle East and the Western Hemisphere via a gateway in Argentina, Brazil, Chile, Paraguay or Uruguay.

EUROPE – Geographical Europe and Algeria, the Azores, the Canary Islands, Madeira, Morocco, Tunisia, and Turkey.

NORTH AFRICA – The part of Africa north of the Equator, but excluding those areas mentioned in Europe and the Middle East.

SOUTHERN AFRICA – The part of Africa south of the Equator.

MIDDLE EAST – Bahrein, Cyprus, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, Syria, United Arab Emirates, Yemen Arab Republic, and Yemen People's Democratic Republic.

FAR EAST AND AUSTRALASIA – IATA Traffic Conference Area 3.

NORTH AND MID-PACIFIC – Any route between points in Conference Area 1 and points in Conference Area 3 (except Australasia) via the North and Central Pacific Ocean.

SOUTH PACIFIC – Any route between points in Conference Area 1 and points in Australasia via the South Pacific Ocean.

Traffic Conference No. 1 encompasses all of the North and South American continents and the islands adjacent thereto: Bermuda, the West Indies, the Islands of the Caribbean Sea, and the Hawaiian Islands, including Midway and Palmyra.

Traffic Conference No. 2 encompasses all of Europe including that part of the Union of Soviet Socialist Republics in Europe, the islands adjacent thereto, Iceland, the Azores, the Middle East, all of Africa and the islands adjacent thereto, Ascension Island, and that part of Asia lying west of and including Iran.

Traffic Conference No. 3 encompasses all of Asia and the islands thereto except that portion included in Traffic Conference No. 2; all of the East Indies, Australia, New Zealand, and the islands adjacent thereto; the islands of the Pacific Ocean except those included in Traffic Conference No. 1.

SCHEDULED SERVICE (Revenue) – Scheduled flights which are open to use by the public and are performed according to a published timetable, or so regularly or frequently as to constitute a recognizable systematic series; extra flights occasioned by overflow traffic from the scheduled flights; and preparatory revenue flights on planned air services.

SPECIFIC AIRCRAFT – Existing types of aircraft and proposed types of aircraft committed to production or for which orders have been contracted with a manufacturer.

APPENDIX B
ECONOMETRIC APPROACH

REGIONAL TRAFFIC FORECASTING

The methodology used in developing the regional traffic forecasts was based upon econometric forecasting procedures. This technique is quite common in the aviation forecasting community. It involves developing a traffic forecast on the basis of historical relationships between traffic and explanatory variables, such as: income, price, and quality of service. The forecasts of the explanatory variables are presumably easier to develop than forecasting traffic itself.

Traffic is forecast for 32 regions throughout the world as part of the "Outlook" process. In several cases (generally where yield data is unavailable or incomplete) econometric analysis was not satisfactory and judgemental analysis was substituted relying primarily on experience and market knowledge.

Forecasts of the explanatory variables, usually income and price, were obtained from the following sources: income – was produced based upon the Chase Econometrics forecast of output and prices in the major industrialized nations; price – the real yield assumptions were linked to the IATA Traffic Forecasting Committee regional real yield forecasts.

U. S. AIRLINE INDUSTRY MODEL

The U.S. Airline Industry Model forecasts traffic demand, revenues, expenses, and profits for the U.S. airline industry. Traffic demand forecasts are created for the certificated CAB set of commercial airlines. The individual carrier traffic forecasts are used to forecast total revenues for the U.S. industry. Concurrently, macro forecasts of industry expense items are created, allowing the model to project future industry profit levels, given the revenue and expense forecasts.

The traffic demand forecasts are derived by using econometric equations which are typically a function of price, incomes, and an airline's market share. These forecasts are then used to estimate industry's revenue generation. The expense equations are also econometrically estimated, based on such operational variables as capacity levels, number of departures, stage length, etc. The amount of profits then become an identity which subtracts total industry expenses from revenues.

At the present time there are approximately 500 variables in the model; 165 of these are based on behavioral equations with the remainder being either identities or exogenously determined.

METHODOLOGY – INDIVIDUAL AIRLINES

In an effort to produce a reliable forecast of airline activity over the long-term planning horizon, selected traffic forecasting models were developed on an individual airline basis. Since the number of airlines under study is very large, traffic forecasting models on an individual airline basis were limited to those airlines contributing the top 85 percent of scheduled revenue passenger-kilometers (RPK) or approximately 50 airlines. In order to be compatible with our regional total market forecasts, these individual airline forecast were generated by region of operation as defined in the IATA traffic conference breakdowns.

The models were single equation formulation of the logarithm of individual airline's regional RPKs as a function of the logarithm of regional income and real regional average fares. The real income is composed of the weighted real gross domestic product (GDP) of the countries represented in each region. The real regional average fares are the ICAO estimates of nominal regional average fares converted to real terms using a composite deflation for the countries in the particular region. The weighting on the individual countries was on the basis of 1975 constant dollar GDP size. While participation by country of residence would be a theoretically superior measure for weightings, the availability of consistent data precluded the use of such weighting, and GDP size was used as a reasonable proxy.

U.S DOMESTIC LOAD FACTOR RATIONALE

The continued increase in the percent of available seating capacity occupied (i.e., the load factor) is an area of some concern to industry observers. During the 1970s the load factors in the U.S. Domestic system ranged from 50 to 60 percent while the forecast has load factors during the next fifteen years of between 60 to 70 percent. What factors are behind this upward increase in load factors?

The explanation of this phenomenon is simply that airlines will need to become more efficient (the relation of inputs to output) in all facets of these operations in order to survive cost and competitive pressures that are likely to confront industry over the balance of this planning cycle. Unit labor and fuel costs are anticipated to increase in excess of the general rate of inflation, while yields (the revenue per passenger kilometer) will increase at the same or a slightly slower rate than inflation. The only way to remain profitable in the event of these circumstances is to become more productive with airline equipment. Aside from the operational decisions of modern equipment and high use per day (i.e. aircraft utilization), airlines will continue to strive to maximize on-board load factors.

APPENDIX C
AIRLINES STUDIED

UNITED STATES

MAJORS (12)

AMERICAN AIRLINES
BRANIFF AIRWAYS
CONTINENTAL AIRLINES
DELTA AIRLINES
EASTERN AIRLINES
NORTHWEST ORIENT AIRLINES
PAN AMERICAN WORLD AIRWAYS
* REPUBLIC AIRLINES
TRANS WORLD AIRLINES
UNITED AIRLINES
* USAIR
WESTERN AIRLINES

* Previously Locals

NATIONALS (15)

** AIRCAL
** AIR FLORIDA
** ALASKA AIRLINES
** ALOHA AIRLINES
CAPITOL INTERNATIONAL AIRWAYS
FRONTIER AIRLINES
** HAWAIIAN AIRLINES
OZARK AIRLINES
PIEDMONT AVIATION
PACIFIC SOUTHWEST AIRLINES
SOUTHWEST AIRLINES
TEXAS INTERNATIONAL AIRLINES
TRANSAMERICA AIRLINES
** WIEN AIR ALASKA
WORLD AIRWAYS

** Previously Regionals

ALL CARGO SERVICE (3)

AIRLIFT INTERNATIONAL
FEDERAL EXPRESS
FLYING TIGER LINE

LARGE REGIONALS (4)

AIR NEW ENGLAND
EVERGREEN INTERNATIONAL AIRLINES
MIDWAY AIRLINES
REEVE ALEUTIAN AIRWAYS

OVERSEAS NATIONAL AIRWAYS (Historical only)

CANADA (7)

AIR CANADA
CP AIR
EASTERN PROVINCIAL
NORDAIR
PACIFIC WESTERN
QUEBECAIR
WARDAIR CANADA

EUROPE (36)

SCHEDULED

AER LINGUS
AIR FRANCE
AIR INTER
AIR MALTA
AIR U.K.
ALISARDA
ALITALIA
A.T.I.
AUSTRIAN
AVIACO
BRAATHENS
BRITISH AIRWAYS
BRITISH CALEDONIAN AIRWAYS
CSA (CZECHOSLOVAK AIRLINES)
FINNAIR
IBERIA
ICELANDAIR (Flugfelag)
ITAVIA (Historial only)
JAT
KLM
LAKER
LINJEFLYG
LOT (Polish Airlines)
LUFTHANSA GERMAN AIRLINES
LUXAIR
MALEV
NLM (City Hopper)
OLYMPIC AIRWAYS
SABENA
SAS

SATA
SWISSAIR
TAP
TAROM (Romanian Air Transport)
THY (Turk Hava Yollari)
U.T.A.

EUROPE (25)

NONSCHEDULED

BALAIR
BRITANNIA AIRWAYS
BRITISH MIDLAND AIRWAYS (some scheduled)
CARGOLUX AIRLINES INTERNATIONAL (cargo only)
CONAIR A/S
CONDOR
CTA
DAN-AIR SERVICES, LTD. (some scheduled)
HAPAG-LLOYD
INEX ADRIA AIRWAYS
KAR-AIR (some scheduled)
LTU
MAERSK AIR
MARTINAIR
MONARCH AIRLINES
MONTANA AUSTRIA
SCANAIR
SOBELAIR
SPANTAX
STERLING AIRWAYS
TRANS EUROPA
TRANSAIR SWEDEN
TRANSAVIA
TRANS EUROPEAN AIRWAYS
TRANSMERIDAN AIR CARGO (Historical only)

AFRICA (20)

AIR AFRIQUE
AIR ALGERIE
AIR MADAGASCAR
AIR MALAWI
AIR MALI
AIR TANZANIA
AIR ZAIRE
AIR ZIMBABWE
CAMEROON
ETHIOPIAN AIRLINES
GHANA AIRWAYS
KENYA AIRWAYS

LAM-MOZAMBIQUE
LIBYAN ARAB AIRLINES
NIGERIA AIRWAYS
ROYAL AIR MAROC
SOUTH AFRICAN AIRWAYS
TAAG (Angola Airlines)
TUNIS AIR
ZAMBIA AIRWAYS

LATIN AMERICA (35)

AEROCONDOR (Historical only)
AEROLINEAS ARGENTINAS
AEROMEXICO
AEROPERU
AIR JAMAICA
AIR PANAMA INTERNATIONAL
ALM
AUSTRAL
AVENSA
AVIANCA
AVIATECA
BAHAMASAIR
COPA
CRUZEIRO
CUBANA
DOMINICANA
ECUATORIANA
FAUCETT
LAB (Lloyd Aereo Boliviano)
LACSA
LADECO
LAN-CHILE AIRLINES
LAV (Linea Aeropostal Venezolana)
MEXICANA
PLUNA
SAHSA
SAM
SURINAM
TACA
TAN AIRLINES
TRANSBRASIL
TRINIDAD AND TOBAGO (BWIA Int'l) AIRWAYS
VARIG
VASP
VIASA

MIDDLE EAST (18)

ALIA (Royal Jordanian Airlines)
ARIANA AFGHANA AIRLINES
ARKIA
BANGLADESH BIMAN
CYPRUS AIRWAYS
EGYPTAIR
EL AL (Israel Airlines)
GULF AIR
IRAN AIR
IRAQI AIRWAYS
KUWAIT AIRWAYS
M.E.A.
PAKISTAN INTERNATIONAL AIRLINES
SAUDI ARABIAN AIRLINES
SUDAN AIRWAYS
SYRIAN ARAB AIRLINES
TMA (Trans Mediterranean Airways — cargo only)
YEMEN AIRWAYS

ASIA AND PACIFIC (29)

AIR INDIA
AIR LANKA
AIR NEW ZEALAND
AIR NIUGINI
AIR PACIFIC
ALL NIPPON AIRWAYS
ANSETT AIRLINES
BOURAQ INDONESIAN AIRLINES
CATHAY PACIFIC AIRWAYS
CHINA AIRLINES
EAST-WEST AIRLINES
GARUDA INDONESIAN AIRWAYS
INDIAN AIRLINES
JAL (Japan Air Lines)
JAPAN ASIA AIRWAYS
KOREAN AIRLINES
MACROBERTSON MILLER AIRLINES*
MALAYSIAN AIRLINE SYSTEM
MERPATI NUSANTARA AIRLINES
PHILIPPINE AIRLINES
POLYNESIAN AIRLINES
QANTAS AIRWAYS

* Airline of Western Australia

ROYAL NEPAL AIRLINES
SINGAPORE AIRLINES
SOUTHWEST (Japan)
TAA
TDA (TOA Domestic Airlines)
THAI AIRWAYS (Domestic)
THAI AIRWAYS INTERNATIONAL

205 Airlines in Study Group (four with historical data only)

APPENDIX D
TRAFFIC AND CAPACITY DETAIL
(PASSENGER AND CARGO)

PASSENGER TRAFFIC HISTORY AND FORECAST

TOTAL WORLD

TOTAL REPORT (RPKs AND ASKs IN BILLIONS)

	SCHEDULED SERVICE					NONSCHEDULED SERVICE					ALL SERVICES				
YEAR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR
1971	390.6	0.0	771.0	0.0	50.6	64.1	0.0	85.8	0.0	74.6	454.6	0.0	856.8	0.0	53.0
1972	452.2	15.7	835.6	8.3	54.1	71.6	11.8	111.0	29.3	64.5	523.8	15.2	946.6	10.4	55.3
1973	519.2	14.8	939.2	12.3	55.2	83.7	16.8	111.8	0.6	74.9	603.0	15.1	1050.9	11.0	57.3
1974	548.2	5.5	964.6	2.7	56.8	90.6	8.1	118.1	5.6	76.7	638.8	5.9	1082.6	3.0	59.0
1975	574.2	4.7	1021.1	5.8	56.2	101.5	12.0	139.0	17.7	73.0	675.6	5.7	1160.0	7.1	58.2
1976	632.7	10.1	1100.8	7.8	57.4	105.9	4.3	147.1	5.8	71.9	738.6	9.3	1247.9	7.5	59.1
1977	697.0	10.1	1188.5	7.9	58.6	112.1	5.8	144.2	-2.0	77.7	809.2	9.5	1332.7	6.7	60.7
1978	802.3	15.1	1287.7	8.3	62.3	117.9	5.1	149.1	3.4	79.0	920.3	13.7	1436.9	7.8	64.0
1979	908.7	13.1	1424.2	10.6	63.7	115.4	-2.2	144.4	-3.2	79.9	1023.0	11.1	1568.6	9.1	65.2
1980*	929.5	2.4	1522.6	6.9	61.0	111.4	-3.5	142.9	-1.1	77.9	1040.9	1.7	1665.5	6.1	62.4
1981**	966.9	4.0	1582.4	3.9	61.1	116.3	4.4	146.8	2.7	79.2	1083.2	4.0	1729.2	3.8	62.6
1982	1040.6	7.6	1675.5	5.8	62.1	124.3	6.8	156.5	6.5	79.4	1164.8	7.5	1832.0	5.9	63.5
1983	1111.3	6.8	1768.6	5.5	62.8	131.3	5.6	164.6	5.1	79.7	1242.6	6.6	1933.2	5.5	64.2
1984	1191.0	7.1	1873.2	5.9	63.5	138.4	5.4	173.1	5.1	79.9	1329.4	6.9	2046.3	5.8	64.9
1985	1267.0	6.4	1975.6	5.4	64.1	145.9	5.4	182.2	5.2	80.0	1413.8	6.3	2157.9	5.4	65.5
1986	1356.5	6.9	2096.0	6.0	64.7	153.7	5.3	191.4	5.0	80.2	1510.2	6.8	2287.5	6.0	66.0
1987	1451.0	6.9	2219.4	5.8	65.3	161.4	5.0	200.5	4.7	80.5	1612.4	6.7	2420.0	5.7	66.6
1988	1548.9	6.7	2352.7	6.0	65.8	169.6	5.0	209.8	4.6	80.8	1718.5	6.5	2562.4	5.8	67.0
1989	1651.9	6.5	2496.9	6.1	66.1	178.2	5.0	219.8	4.7	81.0	1829.2	6.4	2716.7	6.0	67.3
1990	1762.4	6.7	2644.7	5.9	66.6	186.8	4.8	228.9	4.1	81.5	1949.2	6.5	2873.7	5.7	67.8
1991	1877.7	6.5	2814.8	6.4	66.7	195.6	4.7	238.9	4.3	81.8	2073.3	6.3	3053.6	6.2	67.8
1992	2002.8	6.6	2994.5	6.3	66.8	204.8	4.7	249.8	4.5	81.9	2207.6	6.4	3244.4	6.2	68.0
1993	2129.1	6.3	3180.7	6.2	66.9	214.6	4.7	261.6	4.6	82.0	2343.6	6.1	3442.3	6.1	68.0
1994	2274.8	6.8	3392.5	6.6	67.0	224.8	4.7	274.0	4.7	82.0	2499.7	6.6	3666.5	6.5	68.1
1995	2423.9	6.5	3608.4	6.3	67.1	235.6	4.7	287.7	4.9	81.8	2659.5	6.3	3896.1	6.2	68.2

81 GEN 23174

*1980 NON-U.S. DATA ARE ESTIMATED
**FORECAST BEGINS IN 1981

PASSENGER TRAFFIC HISTORY AND FORECAST

TOTAL U.S.

TOTAL REPORT (RPKs AND ASKs IN BILLIONS)

	SCHEDULED SERVICE					NONSCHEDULED SERVICE					ALL SERVICES				
YEAR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR
1971	217.7	0.0	446.6	0.0	48.7	34.1	0.0	40.9	0.0	83.3	251.8	0.0	487.6	0.0	51.6
1972	246.4	13.2	463.4	3.7	53.1	31.9	-6.6	38.1	-7.0	83.6	278.3	10.5	501.5	2.8	55.5
1973	264.6	7.3	505.9	9.1	52.3	35.6	11.7	43.6	14.3	81.7	300.2	7.8	549.4	9.5	54.6
1974	266.9	0.8	484.5	-4.3	55.0	33.2	-6.8	43.7	0.3	76.0	300.2	-0.1	528.3	-3.9	56.8
1975	267.6	0.2	494.7	2.0	54.1	30.7	-7.7	38.5	-11.9	79.6	298.3	-0.7	533.2	0.9	55.9
1976	293.9	9.8	527.3	6.5	55.7	33.7	9.7	42.0	8.9	80.2	327.6	9.8	569.3	6.7	57.5
1977	317.8	8.1	565.4	7.2	56.2	36.6	8.5	45.1	7.4	81.0	354.4	8.1	610.4	7.2	58.0
1978	372.2	17.1	604.9	6.9	61.5	33.5	-8.4	40.6	-10.1	82.6	405.7	14.4	645.5	5.7	62.8
1979	421.2	13.1	669.5	10.6	62.9	26.1	-22.1	30.8	-24.2	84.9	447.3	10.2	700.3	8.4	63.8
1980	409.1	-2.9	693.0	3.5	59.0	19.8	-24.3	25.2	-18.3	78.6	428.9	-4.2	718.2	2.5	59.7
1981*	410.3	0.3	687.3	-0.9	59.7	21.3	7.7	26.6	5.6	80.2	431.7	0.6	713.9	-0.6	60.4
1982	437.8	6.6	712.8	3.7	61.4	23.5	10.3	29.3	10.2	80.2	461.3	6.8	742.1	3.9	62.1
1983	461.3	5.3	739.7	3.7	62.3	24.7	4.9	30.6	4.4	80.6	486.0	5.3	770.3	3.8	63.0
1984	490.2	6.2	768.5	3.8	63.7	25.7	4.0	31.7	3.6	80.8	515.9	6.1	800.2	3.8	64.4
1985	517.2	5.5	801.4	4.2	64.5	26.7	4.0	33.0	4.0	80.8	543.9	5.4	834.5	4.2	65.1
1986	552.4	6.8	845.1	5.4	65.3	27.8	4.0	34.1	3.3	81.4	580.2	6.6	879.2	5.3	65.9
1987	586.4	6.1	886.8	4.9	66.1	28.8	3.7	35.4	3.6	81.4	615.2	6.0	922.2	4.8	66.7
1988	619.0	5.5	927.9	4.6	66.7	29.9	3.7	36.4	2.9	82.1	648.9	5.4	964.2	4.5	67.3
1989	653.1	5.5	972.6	4.8	67.1	31.0	3.6	37.7	3.5	82.2	684.1	5.4	1010.3	4.7	67.7
1990	692.0	5.9	1020.1	4.8	67.8	32.1	3.7	38.8	2.9	82.8	724.1	5.8	1058.9	4.8	68.3
1991	731.4	5.7	1076.2	5.5	67.9	33.3	3.6	40.0	3.1	83.2	764.8	5.6	1116.2	5.4	68.5
1992	776.4	6.1	1130.2	5.5	68.3	34.6	3.7	41.5	3.6	83.3	811.0	6.0	177.6	5.4	68.8
1993	817.8	5.3	1194.1	5.1	68.4	35.9	3.7	43.0	3.7	83.3	853.7	5.2	1237.1	5.0	69.0
1994	871.3	6.5	1266.4	6.0	68.8	37.2	3.7	44.6	3.7	83.4	908.5	6.4	1311.0	5.9	69.2
1995	923.1	5.9	1334.9	5.4	69.1	38.6	3.8	46.3	3.7	83.4	961.8	5.8	1381.2	5.3	69.6

81 GEN 23168

*FORECAST BEGINS IN 1981

PASSENGER TRAFFIC HISTORY AND FORECAST

EUROPE

TOTAL REPORT (RPKs AND ASKs IN BILLIONS)

	SCHEDULED SERVICE					NONSCHEDULED SERVICE					ALL SERVICES				
YEAR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR
1971	90.0	0.0	170.7	0.0	52.6	24.7	0.0	36.1	0.0	68.4	114.7	0.0	206.8	0.0	55.4
1972	106.2	18.0	195.6	14.5	54.3	33.8	36.6	63.1	74.7	53.5	140.0	22.0	258.6	25.0	54.1
1973	123.0	15.7	216.9	10.9	56.6	39.8	17.7	55.5	-12.1	71.6	162.7	16.2	272.4	5.3	59.7
1974	128.0	4.1	226.8	4.5	56.4	48.0	20.6	60.0	8.1	79.8	176.0	8.1	286.9	5.3	61.3
1975	135.0	5.4	236.6	4.3	57.0	58.7	22.2	82.0	36.5	71.4	193.7	10.0	318.6	11.0	60.7
1976	146.8	8.6	253.4	7.0	57.9	60.1	2.4	85.2	3.9	70.5	206.8	6.8	338.6	6.2	61.0
1977	157.5	7.2	265.3	4.6	59.3	62.2	3.4	79.4	-6.9	78.2	219.6	6.1	344.7	1.7	63.7
1978	179.6	14.0	292.0	10.0	61.5	68.9	10.9	86.0	8.3	80.1	248.6	13.1	378.0	9.6	65.7
1979	198.0	10.2	312.7	7.0	63.3	72.3	4.8	89.7	4.2	80.6	270.3	8.7	402.3	6.4	67.1
1980*	203.9	3.0	331.9	6.1	61.4	73.9	2.2	93.2	3.9	79.3	277.9	2.8	425.1	5.6	65.3
1981**	212.2	4.0	344.4	3.7	61.6	75.9	2.6	94.2	1.0	80.5	288.0	3.6	438.6	3.1	65.6
1982	226.1	6.5	362.7	5.3	62.3	80.3	5.7	99.3	5.4	80.8	306.3	6.3	462.0	5.3	66.3
1983	240.3	6.2	383.0	5.6	62.7	84.6	5.4	104.2	4.9	81.2	324.9	6.0	487.2	5.4	66.7
1984	255.1	6.1	406.5	6.1	62.7	89.3	5.4	109.5	5.1	81.5	344.4	5.9	516.0	5.9	66.7
1985	269.0	5.4	425.4	4.6	63.2	94.1	5.4	115.6	5.5	81.4	363.1	5.4	541.0	4.8	67.1
1986	285.0	5.9	449.3	5.6	63.4	99.3	5.4	121.8	5.4	81.4	384.3	5.8	571.1	5.5	67.2
1987	303.2	6.3	473.7	5.4	63.9	104.3	5.0	127.8	4.9	81.6	407.5	6.0	601.7	5.3	67.7
1988	322.9	6.5	500.9	5.6	64.4	109.6	5.0	133.8	4.6	81.9	432.5	6.1	634.6	5.4	68.1
1989	342.8	6.1	530.7	5.9	64.5	115.2	5.0	140.1	4.7	82.2	458.0	5.8	670.8	5.7	68.2
1990	364.6	6.3	559.0	5.3	65.2	120.7	4.8	145.7	3.9	82.8	485.3	5.9	704.7	5.0	68.8
1991	387.5	6.2	594.0	6.2	65.2	126.4	4.6	152.6	4.7	82.8	513.9	5.8	746.6	5.9	68.8
1992	411.2	6.1	630.2	6.0	65.2	132.3	4.6	159.4	4.4	82.9	543.4	5.7	789.7	5.7	68.8
1993	435.5	5.9	667.5	5.9	65.2	138.5	4.6	166.8	4.6	82.9	574.0	5.6	834.3	5.6	68.7
1994	462.5	6.1	708.8	6.1	65.2	145.0	4.6	174.6	4.6	83.0	607.4	5.8	883.4	5.8	68.7
1995	490.9	6.1	752.3	6.1	65.2	151.8	4.7	183.4	5.0	82.7	642.7	5.7	935.7	5.9	68.6

81 GEN 23173

*1980 DATA ARE ESTIMATED
**FORECAST BEGINS IN 1981

PASSENGER TRAFFIC HISTORY AND FORECAST

OTHER

TOTAL REPORT (ASKs AND RPKs IN BILLIONS)

	SCHEDULED SERVICE					NONSCHEDULED SERVICE					ALL SERVICES				
YEAR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR
1971	82.9	0.0	153.6	0.0	53.9	5.3	0.0	8.7	0.0	60.0	88.2	0.0	162.4	0.0	54.3
1972	95.5	15.9	176.7	15.0	54.2	6.0	13.8	9.8	12.1	61.0	105.5	19.5	186.5	14.8	56.5
1973	131.7	32.3	216.4	22.4	60.8	8.3	39.2	12.7	29.2	65.7	140.0	32.7	229.1	22.8	61.1
1974	153.3	16.4	253.2	16.9	60.5	9.3	11.9	14.3	12.6	65.3	162.6	16.1	267.5	16.7	60.7
1975	171.5	11.8	289.7	14.4	59.1	12.2	30.3	18.5	29.2	65.9	183.7	12.9	308.2	15.2	59.5
1976	192.0	11.9	320.1	10.4	59.9	12.2	-0.1	19.9	7.9	61.0	204.1	11.1	340.1	10.3	60.0
1977	221.8	15.5	357.9	11.7	61.9	13.4	10.2	19.7	-1.1	67.9	235.2	15.1	377.6	11.0	62.2
1978	250.6	13.0	390.8	9.2	64.1	15.4	15.1	22.6	14.5	68.2	266.0	13.1	413.4	9.4	64.3
1979	288.5	15.1	442.0	13.0	65.2	16.9	9.6	24.0	5.9	70.6	305.4	14.7	466.0	12.7	65.5
1980*	316.5	9.7	497.7	12.5	63.5	17.7	4.7	24.6	2.5	72.1	334.2	9.4	522.2	12.0	63.9
1981**	344.4	8.8	550.7	10.6	62.5	19.1	8.0	26.1	6.1	73.4	363.5	8.7	576.8	10.4	63.0
1982	376.8	9.4	600.0	8.9	62.7	20.5	7.0	27.9	7.1	73.3	397.2	9.2	628.0	8.8	63.2
1983	409.7	8.7	645.9	7.6	63.4	21.9	7.0	29.9	6.9	73.5	431.7	8.6	675.8	7.6	63.8
1984	445.7	8.7	698.2	8.1	63.8	23.4	6.8	31.8	6.5	73.6	469.1	8.6	730.1	8.0	64.2
1985	481.7	8.0	748.8	7.2	64.3	25.0	6.6	33.6	5.5	74.3	506.7	8.0	782.5	7.1	64.7
1986	519.1	7.7	801.6	7.0	64.7	26.6	6.3	35.5	5.4	74.9	545.7	7.6	837.1	6.9	65.1
1987	561.4	8.1	858.8	7.1	65.3	28.3	6.3	37.3	5.1	75.8	589.7	8.0	896.1	7.0	65.8
1988	606.9	8.1	923.9	7.5	65.6	30.1	6.4	39.6	6.1	76.0	637.0	8.0	963.5	7.5	66.1
1989	655.0	7.9	993.5	7.5	65.9	32.1	6.4	42.0	6.0	76.3	687.0	7.8	1035.5	7.4	66.3
1990	706.9	7.7	1065.7	7.2	66.2	33.9	5.8	44.4	5.8	76.3	739.8	7.6	1110.1	7.2	66.6
1991	758.7	7.4	1144.5	7.4	66.2	35.9	5.9	46.3	4.1	77.5	794.6	7.4	1190.8	7.2	66.7
1992	815.2	7.4	1228.1	7.3	66.3	38.0	5.8	48.9	5.7	77.6	853.2	7.3	1277.1	7.2	66.8
1993	875.7	7.4	1319.1	7.4	66.3	40.2	5.8	51.7	5.6	77.7	916.0	7.3	1370.8	7.3	66.8
1994	941.1	7.4	1417.3	7.4	66.4	42.6	5.8	54.8	5.8	77.7	983.7	7.3	1472.0	7.3	66.8
1995	1009.9	7.3	1521.2	7.3	66.3	45.1	5.9	58.0	5.9	77.7	1055.0	7.2	1579.2	7.2	66.8

81 GEN 23171

*1980 DATA ARE ESTIMATED
** FORECAST BEGINS IN 1981

PASSENGER TRAFFIC HISTORY AND FORECAST

TRUNKS

TOTAL REPORT (RPKs AND ASKs IN BILLIONS)

	SCHEDULED SERVICE					NONSCHEDULED SERVICE					ALL SERVICES				
YEAR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR
1971	201.0	0.0	412.2	0.0	48.7	16.9	0.0	19.9	0.0	85.1	218.0	0.0	432.1	0.0	50.4
1972	227.1	12.9	426.0	3.3	53.3	16.0	−5.7	18.8	−5.7	85.1	243.1	11.5	444.8	2.9	54.6
1973	242.9	6.9	463.9	8.8	52.3	18.1	13.0	21.2	12.8	85.3	261.0	7.3	485.0	9.0	53.8
1974	243.2	0.0	441.1	−4.9	55.1	16.3	−9.7	19.2	−9.3	85.0	259.5	−0.6	460.4	−5.1	56.3
1975	243.3	0.0	449.9	1.9	54.0	14.7	−9.9	18.2	−5.6	81.1	258.0	−0.6	468.1	1.6	55.1
1976	266.6	9.5	478.2	6.2	55.7	18.4	25.0	22.5	23.9	81.8	285.0	10.4	500.6	6.9	56.9
1977	287.1	7.6	511.0	6.8	56.1	18.1	−1.8	21.6	−4.0	83.7	305.2	7.0	532.6	6.3	57.3
1978	335.2	16.7	543.0	6.2	61.7	13.0	−28.4	15.6	−28.3	83.7	348.1	14.0	558.5	4.8	62.3
1979	375.4	12.0	593.9	9.3	63.2	8.9	−31.1	10.7	−31.1	83.6	384.3	10.4	604.6	8.2	63.5
1980	356.0	−5.2	599.8	0.9	59.3	5.6	−37.8	6.9	−35.5	80.6	361.6	−6.0	606.7	0.3	59.5
1981*	351.9	−1.2	587.0	−2.2	59.9	5.5	−1.1	6.9	−0.7	80.3	357.3	−1.2	593.8	−2.2	60.1
1982	373.6	6.1	604.5	2.9	61.7	5.7	3.4	7.1	3.9	80.0	379.3	6.1	611.6	3.0	62.0
1983	383.1	5.2	626.2	3.5	62.7	5.9	3.5	7.4	3.4	80.0	399.0	5.2	633.5	3.5	62.9
1984	416.4	5.9	648.2	3.5	64.2	6.1	3.5	7.6	3.7	79.9	422.5	5.9	655.9	3.5	64.4
1985	439.0	5.4	674.6	4.0	65.0	6.3	3.5	7.9	3.6	79.8	445.3	5.3	682.6	4.0	65.2
1986	467.9	6.5	710.6	5.3	65.8	6.6	3.5	8.1	2.1	80.9	474.5	6.5	718.7	5.2	66.0
1987	496.1	6.0	744.5	4.7	66.6	6.7	2.2	8.3	2.1	81.0	502.8	5.9	752.8	4.7	66.7
1988	523.5	5.5	778.8	4.6	67.2	6.9	2.3	8.4	2.0	81.2	530.4	5.4	787.2	4.5	67.3
1989	552.3	5.5	816.5	4.8	67.6	7.0	2.3	8.6	2.1	81.3	559.3	5.4	825.1	4.8	67.7
1990	584.8	5.8	856.6	4.9	68.2	7.2	2.3	8.8	2.3	81.3	592.0	5.8	865.4	4.8	68.4
1991	617.7	5.6	903.9	5.5	68.3	7.3	2.2	9.0	2.3	81.3	625.0	5.5	913.0	5.4	68.4
1992	655.6	6.1	953.9	5.5	68.7	7.5	2.3	9.2	2.3	81.2	663.1	6.1	963.1	5.4	68.8
1993	691.0	5.3	1003.0	5.1	68.8	7.7	2.3	9.5	2.3	81.2	698.7	5.3	1012.4	5.1	69.0
1994	736.4	6.5	1064.2	6.1	69.1	7.9	2.3	9.7	2.3	81.2	744.3	6.5	1073.9	6.0	69.3
1995	780.7	6.0	1123.4	5.5	69.4	8.1	2.3	9.9	2.3	81.2	788.8	5.9	1133.3	5.5	69.5

81 GEN 23166

*FORECAST BEGINS IN 1981

PASSENGER TRAFFIC HISTORY AND FORECAST

MAJORS

TOTAL REPORT (RPKs AND ASKs IN BILLIONS)

	SCHEDULED SERVICE					NONSCHEDULED SERVICE					ALL SERVICES				
YEAR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR
1971	207.7	0.0	427.2	0.0	48.6	17.2	0.0	20.3	0.0	84.6	224.8	0.0	447.5	0.0	50.2
1972	235.5	13.3	443.6	3.7	53.1	16.2	−5.5	19.2	−5.4	84.6	251.7	11.9	462.5	3.3	54.4
1973	252.9	7.4	484.6	9.3	52.1	18.4	13.1	21.7	12.8	84.8	271.3	7.7	506.3	9.4	53.5
1974	253.9	0.3	461.6	−4.8	55.0	16.6	−9.7	19.7	−9.3	84.4	270.5	−0.3	481.2	−5.00	56.2
1975	254.0	0.0	470.6	1.9	53.9	15.1	−9.4	18.7	−5.0	80.5	269.0	−0.6	489.3	1.6	54.9
1976	278.2	9.5	500.3	6.3	55.6	19.0	26.2	23.4	25.2	81.1	297.3	10.4	523.7	7.0	56.7
1977	300.0	7.8	535.2	6.9	56.0	18.9	−0.8	22.9	−2.5	82.5	318.9	7.2	558.1	6.5	57.1
1978	350.6	16.8	569.4	6.3	61.5	14.1	−25.2	17.1	−25.1	82.4	364.7	14.3	586.6	5.1	62.1
1979	393.5	12.2	625.8	9.7	62.9	9.6	−31.9	11.5	−32.7	83.3	403.1	10.5	636.5	8.5	63.3
1980	376.1	−4.5	636.7	1.8	59.0	5.8	−39.6	7.2	−37.3	80.4	381.9	−5.3	644.0	1.1	59.3
1981*	373.1	−0.8	624.8	−1.9	59.7	5.8	−0.8	7.2	−0.6	80.2	378.9	−0.8	632.0	−1.9	59.9
1982	395.6	6.0	643.2	2.9	61.4	6.0	3.6	7.5	4.0	79.9	401.6	5.9	650.7	2.9	61.7
1983	416.4	5.2	666.2	3.5	62.4	6.2	3.6	7.8	3.5	80.0	422.6	5.2	674.0	3.5	62.6
1984	441.3	5.9	689.9	3.5	63.9	6.4	3.6	8.0	3.7	79.9	447.7	5.9	698.0	3.5	64.1
1985	465.1	5.3	718.1	4.0	64.7	6.7	3.6	8.3	3.7	79.8	471.7	5.3	726.4	4.0	64.9
1986	496.0	6.6	756.5	5.3	65.5	6.9	3.6	8.5	2.3	80.8	502.9	6.6	765.0	5.3	65.7
1987	525.7	5.9	792.3	4.7	66.3	7.1	2.3	8.7	2.2	80.9	532.8	5.9	801.0	4.7	66.5
1988	554.6	5.4	828.1	4.5	66.9	7.2	2.3	8.9	2.1	81.1	561.8	5.4	837.0	4.4	67.1
1989	584.7	5.4	867.8	4.7	67.3	7.4	2.3	9.1	2.2	81.2	592.1	5.3	876.9	4.7	67.5
1990	619.2	5.9	909.8	4.8	68.0	7.6	2.3	9.3	2.3	81.2	626.8	5.8	919.1	4.8	68.1
1991	654.1	5.6	960.1	5.5	68.1	7.8	2.3	9.6	2.3	81.2	661.9	5.6	969.7	5.5	68.2
1992	694.2	6.1	1013.2	5.5	68.5	7.9	2.3	9.7	2.3	81.2	702.2	6.0	1023.0	5.4	68.6
1993	731.5	5.3	1065.0	5.1	68.6	8.1	2.3	10.0	2.4	81.2	739.6	5.3	1075.0	5.0	68.8
1994	779.8	6.6	1129.9	6.0	69.0	8.3	2.4	10.3	2.4	81.2	788.1	6.5	1140.1	6.00	69.1
1995	826.9	6.0	1191.8	5.4	69.3	8.5	2.4	10.5	2.4	81.1	835.5	6.0	1202.3	5.4	69.4

81 GEN 23164

*FORECAST BEGINS IN 1981

PASSENGER TRAFFIC HISTORY AND FORECAST

LOCAL

TOTAL REPORT (RPKs AND ASKs IN BILLIONS)

	SCHEDULED SERVICE					NONSCHEDULED SERVICE					ALL SERVICES				
YEAR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR
1971	11.9	0.0	26.2	0.0	45.2	0.4	0.0	0.6	0.0	62.8	12.2	0.0	26.8	0.0	45.6
1972	14.0	17.8	28.4	8.1	49.3	0.3	−6.5	0.6	−0.7	59.1	14.3	17.0	29.0	8.0	49.5
1973	15.8	12.8	32.4	14.1	48.7	0.4	14.9	0.6	11.3	61.0	16.2	12.8	33.1	14.1	48.9
1974	17.4	9.9	32.9	1.6	52.6	0.4	−9.5	0.6	−4.2	57.6	17.7	9.4	33.6	1.5	52.7
1975	17.2	−1.0	33.3	1.0	51.6	0.4	26.9	0.8	24.9	58.5	17.6	−0.5	34.1	1.4	51.8
1976	19.5	13.4	36.9	10.7	52.9	0.9	93.3	1.3	71.7	65.9	20.4	15.5	38.2	12.1	53.3
1977	21.8	11.6	40.4	9.7	53.8	1.2	41.5	2.0	48.7	62.7	23.0	12.9	42.4	11.0	54.2
1978	26.5	21.6	45.3	11.9	58.5	1.6	34.4	2.4	24.6	67.6	28.2	22.3	47.7	12.5	59.0
1979	32.0	20.7	54.6	20.5	58.7	1.2	−29.0	1.6	−34.3	73.1	33.2	17.8	56.2	17.7	59.1
1980	34.8	8.5	63.4	16.2	54.8	0.7	−36.9	1.1	−32.3	68.1	35.5	6.9	64.5	14.8	55.0
1981*	36.4	4.6	65.2	2.7	55.8	0.8	4.9	1.1	3.4	69.1	37.2	4.6	66.3	2.8	56.0
1982	38.2	4.9	67.3	3.2	56.7	0.8	4.2	1.2	3.1	69.9	39.0	4.8	68.5	3.2	56.9
1983	40.3	5.6	70.0	3.9	57.6	0.8	4.1	1.2	2.3	71.1	41.2	5.5	71.2	3.9	57.8
1984	43.2	7.0	72.7	3.9	59.3	0.9	4.1	1.2	4.1	71.1	44.1	7.0	74.0	3.9	59.5
1985	45.2	4.6	75.7	4.0	59.7	0.9	4.1	1.3	3.9	71.3	46.1	4.6	76.9	4.0	59.9
1986	48.8	7.9	79.9	5.5	61.1	1.0	4.2	1.3	4.1	71.3	49.8	7.8	81.2	5.5	61.2
1987	51.9	6.3	83.6	4.7	62.0	1.0	3.3	1.4	2.3	72.0	52.9	6.3	85.0	4.6	62.2
1988	54.7	5.4	86.9	3.9	62.9	1.0	3.1	1.4	2.9	72.1	55.7	5.3	88.3	3.8	63.1
1989	57.4	4.8	90.7	4.3	63.2	1.0	3.1	1.5	3.1	72.1	58.4	4.8	92.2	4.3	63.3
1990	61.1	6.4	94.7	4.4	64.5	1.1	3.2	1.5	3.2	72.2	62.2	6.4	96.2	4.3	64.6
1991	64.8	6.0	99.8	5.3	64.9	1.1	3.2	1.5	3.2	72.2	65.9	5.9	101.3	5.3	65.0
1992	68.7	6.0	105.3	5.5	65.1	1.2	3.3	1.6	1.9	73.1	69.8	5.9	106.9	5.5	65.3
1993	71.7	4.3	110.1	4.5	65.1	1.2	3.3	1.6	3.2	73.1	72.9	4.3	111.7	4.4	65.2
1994	76.4	6.5	116.5	5.7	65.6	1.2	3.3	1.7	3.3	73.2	77.6	6.5	118.1	5.7	65.7
1995	80.6	5.5	121.1	4.0	66.5	1.3	3.4	1.7	3.3	73.2	81.9	5.5	122.9	4.0	66.6

BI GEN 23162

*FORECAST BEGINS IN 1981

PASSENGER TRAFFIC HISTORY AND FORECAST

NATIONALS

TOTAL REPORT (RPKs AND ASKs IN BILLIONS)

	SCHEDULED SERVICE					NONSCHEDULED SERVICE					ALL SERVICES				
YEAR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR	RPKs	ANNUAL GROWTH RATE (RPK)	ASKs	ANNUAL GROWTH RATE (ASK)	LOAD FACTOR
1971	10.0	0.0	19.3	0.0	51.6	14.6	0.0	16.4	0.0	89.1	24.5	0.0	35.6	0.0	68.8
1972	10.9	9.5	20.0	3.6	54.6	12.7	−12.9	14.3	−12.6	88.7	23.6	−3.8	34.3	−3.8	68.8
1973	11.6	6.1	21.1	5.8	54.8	13.7	7.8	15.7	9.5	87.4	25.3	7.0	36.8	7.2	68.7
1974	12.9	11.7	22.9	8.1	56.6	13.7	−0.1	15.2	−2.8	89.7	26.6	5.3	38.1	3.5	69.9
1975	13.5	4.2	23.8	4.0	56.7	12.4	−9.7	14.0	−8.5	88.5	25.9	−2.9	37.7	−1.0	68.5
1976	15.6	15.2	25.7	12.3	58.2	11.5	−7.1	12.9	−7.6	88.9	27.1	4.5	39.6	5.0	68.2
1977	17.7	13.4	29.9	11.8	59.1	14.1	23.0	15.9	23.0	88.9	31.8	17.5	45.8	15.4	69.4
1978	21.4	20.9	35.1	17.5	60.8	16.8	18.9	19.0	19.8	88.2	38.2	20.0	54.1	18.3	70.4
1979	27.5	28.5	44.1	25.5	62.2	15.7	−6.9	18.1	−5.0	86.5	43.1	12.9	62.2	14.8	69.3
1980	32.5	18.1	55.3	25.4	58.7	13.3	−14.9	17.0	−6.3	78.6	45.8	6.1	72.2	16.2	63.3
1981*	36.5	12.5	61.3	10.7	59.6	14.9	11.4	19.3	8.0	81.0	51.4	12.2	79.6	10.1	64.5
1982	41.4	13.2	68.2	11.2	60.7	16.8	13.0	20.7	13.1	80.9	58.2	13.2	88.9	11.6	65.4
1983	44.1	6.4	72.0	5.6	61.2	17.7	5.2	21.8	5.0	81.1	61.8	6.1	93.8	5.5	65.8
1984	48.0	8.8	77.0	6.8	62.3	18.4	4.0	22.5	3.4	81.5	66.4	7.4	99.5	6.0	66.7
1985	51.1	6.4	81.6	6.1	62.5	19.1	4.0	23.5	4.0	81.5	70.2	5.8	105.1	5.6	66.8
1986	55.3	8.1	88.8	8.2	63.7	19.9	3.9	24.3	3.4	81.9	75.1	6.9	111.0	5.6	67.6
1987	59.6	7.7	92.5	6.6	64.3	20.7	3.9	25.2	3.8	82.0	80.2	6.7	117.7	6.0	68.1
1988	63.3	6.2	98.0	5.5	64.7	21.5	4.0	25.9	2.8	82.9	84.8	5.6	123.6	4.9	68.5
1989	67.1	6.1	102.6	5.0	65.4	22.4	4.0	27.0	3.9	82.9	89.5	5.5	129.5	4.8	69.0
1990	71.4	6.3	107.9	5.1	66.1	23.3	4.0	27.8	2.9	83.8	94.7	5.7	135.7	4.7	69.7
1991	75.8	6.1	113.5	5.2	66.7	24.2	4.0	28.7	3.3	84.4	100.0	5.6	142.2	4.8	70.3
1992	80.6	6.2	120.3	5.9	66.9	25.2	4.0	29.8	3.9	84.5	105.8	5.7	150.1	5.5	70.4
1993	84.6	5.0	126.3	5.0	66.9	26.2	4.1	31.0	4.0	84.6	110.9	4.8	157.4	4.9	70.4
1994	89.7	6.0	133.6	5.7	67.1	27.3	4.1	32.3	4.0	84.6	117.1	5.5	165.9	5.4	70.5
1995	94.3	5.1	140.0	4.7	67.3	28.5	4.1	33.6	4.1	84.7	122.8	4.9	173.6	4.6	70.7

BI GEN 23160

*FORECAST BEGINS IN 1981

CARGO TRAFFIC HISTORY AND FORECAST

TOTAL WORLD

TOTAL REPORT (RTKs IN BILLIONS)

	SCHEDULED SERVICE							NONSCHED SERVICE		ALL SERVICE			
YEAR	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT PCT	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)
1971	14.0	0.0	7.9	0.0	56.9	6.0	0.0	1.7	0.0	7.7	0.0	15.7	0.0
1972	15.6	11.9	9.2	15.2	58.6	6.5	7.4	1.9	9.3	8.3	7.8	17.5	11.5
1973	18.0	15.2	10.7	16.4	59.2	7.3	13.6	1.5	-20.6	8.8	5.8	19.5	11.3
1974	19.4	8.0	11.7	10.0	60.3	7.7	5.1	1.6	5.0	9.3	5.1	21.0	7.7
1975	19.6	0.8	11.8	0.7	60.3	7.8	1.0	1.8	12.2	9.6	2.9	21.4	1.7
1976	21.9	11.9	13.4	13.3	61.0	8.5	9.7	2.3	27.7	10.8	13.0	24.2	13.2
1977	24.5	11.4	15.0	12.0	61.4	9.4	10.4	2.6	21.6	12.2	12.8	27.2	12.4
1978	26.4	8.0	15.7	4.2	59.2	10.8	14.0	2.7	-0.8	13.5	10.7	29.2	7.1
1979	28.6	8.4	17.1	9.3	59.7	11.5	7.0	2.6	-6.7	14.1	4.2	31.2	6.9
1980*	29.4	2.6	17.8	4.2	60.6	11.6	0.3	2.5	-3.7	14.0	-0.5	31.9	2.1
1981**	31.3	6.3	19.4	8.9	62.1	11.8	2.3	2.6	3.7	14.4	2.5	33.8	6.1
1982	33.6	7.5	21.0	8.2	62.6	12.6	6.3	2.8	8.0	15.3	6.6	36.4	7.5
1983	36.2	7.7	22.7	7.7	62.6	13.5	7.6	3.0	7.0	16.5	7.5	39.2	7.6
1984	38.9	7.4	24.4	7.4	62.6	14.6	7.5	3.2	7.0	17.7	7.4	42.1	7.4
1985	41.8	7.5	26.1	7.2	62.4	15.7	7.9	3.4	7.1	19.1	7.8	45.2	7.4
1986	45.1	7.9	28.1	7.6	62.2	17.0	8.3	3.6	6.8	20.6	8.0	48.8	7.8
1987	48.8	8.1	30.4	8.1	62.2	18.4	8.2	3.9	6.5	22.3	7.9	52.7	8.0
1988	52.8	8.0	32.8	7.9	62.2	19.9	8.1	4.1	6.6	24.0	7.8	56.9	7.9
1989	56.9	7.9	35.4	7.8	62.2	21.5	7.9	4.4	6.5	25.9	7.7	61.3	7.8
1990	61.5	7.9	38.4	8.4	62.5	23.0	7.0	4.7	6.6	27.7	7.0	66.1	7.8
1991	66.4	8.0	41.7	8.4	62.7	24.7	7.3	5.0	6.4	29.7	7.2	71.4	7.9
1992	71.7	8.0	45.2	8.3	62.9	26.6	7.4	5.3	6.5	31.9	7.3	77.0	7.9
1993	77.5	8.0	49.0	8.4	63.1	28.5	7.3	5.7	6.5	34.2	7.1	83.1	7.9
1994	83.7	8.0	53.1	8.4	63.4	30.6	7.3	6.0	6.5	36.6	7.2	89.7	7.9
1995	90.4	8.0	57.5	8.4	63.6	32.9	7.3	6.4	6.6	39.3	7.2	96.9	7.9

BLGEN23154

*1980 NON-U.S. DATA ARE ESTIMATED
**FORECAST BEGINS IN 1981

CARGO TRAFFIC HISTORY AND FORECAST

TOTAL U.S.

TOTAL REPORT (RTKs IN BILLIONS)

	SCHEDULED SERVICE							NON SCHED SERVICE		ALL SERVICE			
YEAR	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT PCT	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)
1971	7.6	0.00	3.5	0.0	46.1	4.0	0.0	1.6	0.0	5.6	0.0	9.2	0.0
1972	8.0	6.0	3.9	10.3	48.6	4.1	2.3	1.7	4.3	5.8	2.9	9.7	5.7
1973	8.8	9.8	4.3	10.0	48.7	4.5	9.5	0.9	-43.6	5.5	-5.8	9.8	0.6
1974	9.0	1.7	4.5	3.8	49.7	4.5	-0.3	0.7	-21.5	5.2	-3.9	9.7	-0.5
1975	8.7	-3.6	4.4	-1.3	50.9	4.3	-5.8	0.6	-16.4	4.9	-7.3	9.3	-4.6
1976	9.2	5.6	4.8	8.6	52.4	4.4	2.4	0.7	12.9	5.1	3.7	9.9	6.1
1977	10.0	9.1	5.4	11.8	53.7	4.6	6.1	1.1	55.9	5.7	13.0	11.1	12.4
1978	10.3	3.5	5.2	-3.9	49.8	5.2	12.2	1.7	-2.0	6.3	9.5	11.4	3.0
1979	10.7	3.2	5.3	3.5	50.0	5.3	2.8	1.0	-4.6	6.4	1.6	11.7	2.5
1980	10.6	-1.0	5.3	-0.4	50.3	5.3	-1.5	1.0	2.1	6.3	-1.0	11.6	-0.7
1981*	11.0	3.6	5.5	3.8	50.4	5.4	3.3	1.1	4.2	6.5	3.5	12.1	3.6
1982	11.6	5.5	5.8	5.3	50.3	5.7	5.6	1.1	5.7	6.9	5.6	12.7	5.5
1983	12.3	5.9	6.1	4.9	49.8	6.1	7.0	1.2	5.9	7.4	6.8	13.5	5.9
1984	13.0	5.8	6.4	4.8	49.3	6.6	6.8	1.3	6.0	7.9	6.7	14.3	5.8
1985	13.7	5.6	6.7	4.3	48.7	7.0	6.9	1.4	6.0	8.4	6.8	15.1	5.7
1986	14.5	6.0	7.0	5.0	48.2	7.5	6.9	1.5	6.1	9.0	6.8	16.0	6.0
1987	15.5	6.3	7.4	5.3	47.7	8.1	7.3	1.5	5.5	9.6	7.0	17.0	6.3
1988	16.3	5.9	7.8	4.9	47.3	8.6	6.8	1.6	5.5	10.2	6.6	18.0	5.9
1989	17.3	5.7	8.1	4.8	46.9	9.2	6.4	1.7	5.5	10.9	6.3	19.0	5.6
1990	18.3	5.6	8.6	5.9	47.1	9.7	5.4	1.8	5.5	11.5	5.4	20.1	5.6
1991	19.5	6.2	9.1	5.2	46.6	10.4	7.1	1.9	5.0	12.3	6.8	21.3	6.1
1992	20.6	5.9	9.6	5.2	46.3	11.1	6.5	2.0	5.1	13.1	6.3	22.6	5.9
1993	21.8	5.8	10.1	5.5	46.2	11.7	6.1	2.1	5.1	13.8	5.9	23.9	5.7
1994	23.1	5.8	10.6	5.3	46.0	12.5	6.1	2.2	5.1	14.7	6.0	25.3	5.7
1995	24.4	5.8	11.2	5.4	45.8	13.2	6.2	2.3	5.1	15.6	6.0	26.8	5.8

BLGEN23169A

*FORECAST BEGINS IN 1981

CARGO TRAFFIC HISTORY AND FORECAST

EUROPE

TOTAL REPORT (RTKs IN BILLIONS)

	SCHEDULED SERVICE							NON-SCHED SERVICE		ALL SERVICES			
YEAR	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT PCT	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)
1971	3.6	0.0	2.5	0.0	69.4	1.1	0.0	0.1	0.0	1.2	0.0	3.6	0.0
1972	4.2	16.6	3.0	20.0	71.1	1.2	8.9	0.1	103.4	1.3	13.5	4.3	17.9
1973	5.0	18.6	3.6	19.5	71.6	1.4	16.3	0.5	282.5	1.9	40.1	5.4	25.9
1974	5.5	11.1	4.0	11.5	71.9	1.5	10.0	0.7	56.6	2.3	21.4	6.2	14.9
1975	5.5	−1.1	3.9	−2.4	70.9	1.6	2.2	1.0	37.0	2.6	13.1	6.4	3.2
1976	6.3	14.6	4.4	13.6	70.3	1.9	17.1	1.2	26.5	3.1	20.7	7.5	16.4
1977	7.2	14.6	5.0	13.6	69.6	2.2	17.2	1.1	−8.9	3.3	6.8	8.3	10.8
1978	7.9	9.4	5.5	10.5	70.1	2.3	7.1	1.2	7.1	3.5	7.1	9.1	9.1
1979	8.5	8.4	6.1	10.8	71.9	2.4	2.5	1.1	−10.7	3.5	−2.0	9.6	5.8
1980*	8.6	1.2	6.2	1.7	72.2	2.4	−0.1	1.0	−9.9	3.4	−3.1	9.6	−0.1
1981**	9.2	6.4	6.7	7.9	73.2	2.5	2.6	1.0	1.1	3.4	2.1	10.2	5.9
1982	10.0	7.9	7.3	8.3	73.5	2.6	6.8	1.1	10.3	3.7	7.8	11.0	8.1
1983	10.7	7.9	7.9	8.1	73.7	2.8	7.2	1.2	7.6	4.0	7.3	11.9	7.8
1984	11.5	7.5	8.5	7.4	73.6	3.0	7.6	1.3	7.6	4.3	7.6	12.8	7.5
1985	12.4	7.5	9.1	7.2	73.4	3.3	8.4	1.3	7.7	4.6	8.2	13.7	7.5
1986	13.4	8.0	9.8	7.3	73.0	3.6	10.0	1.5	7.7	5.1	9.3	14.8	8.0
1987	14.5	8.4	10.6	8.3	72.9	3.9	8.7	1.6	7.7	5.5	8.4	16.1	8.3
1988	15.7	8.2	11.4	8.1	72.8	4.3	8.4	1.7	7.7	5.9	8.2	17.4	8.1
1989	17.0	8.1	12.3	8.0	72.7	4.6	8.3	1.8	7.7	6.4	8.2	18.8	8.0
1990	18.4	8.0	13.3	8.0	72.7	5.0	8.0	2.0	7.8	6.9	7.9	20.3	7.9
1991	19.8	8.0	14.5	8.3	73.0	5.3	7.0	2.1	7.8	7.5	7.2	21.9	8.0
1992	21.4	8.0	15.7	8.3	73.2	5.7	7.3	2.3	7.8	8.0	7.5	23.7	8.0
1993	23.1	8.1	17.0	8.3	73.3	6.2	7.4	2.5	7.9	8.6	7.5	25.6	8.0
1994	25.0	8.1	18.4	8.3	73.5	6.6	7.4	2.7	7.9	9.3	7.5	27.7	8.0
1995	27.0	8.1	19.9	8.3	73.7	7.1	7.4	2.9	7.9	10.0	7.5	29.9	8.0

81 GEN 23172

*1980 DATA ARE ESTIMATED
**FORECAST BEGINS IN 1981

CARGO TRAFFIC HISTORY AND FORECAST

OTHER

TOTAL REPORT (RTKs IN BILLIONS)

	SCHEDULED SERVICE							NON-SCHED SERVICE		ALL SERVICES			
YEAR	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT PCT	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)
1971	2.8	0.0	1.9	0.0	68.2	0.9	0.0	0.1	0.0	0.9	0.0	2.9	0.0
1972	3.4	21.8	2.3	18.3	67.0	1.1	29.5	0.1	42.0	1.2	30.5	3.5	22.3
1973	4.2	24.0	2.8	23.2	66.6	1.4	25.5	0.1	1.7	1.5	23.4	4.3	23.3
1974	4.9	17.5	3.3	17.6	66.6	1.6	17.3	0.1	18.6	1.8	17.4	5.1	17.5
1975	5.5	11.1	3.5	7.4	64.4	1.9	18.4	0.2	39.4	2.1	20.0	5.7	11.8
1976	6.5	19.1	4.2	18.9	64.3	2.3	19.5	0.3	84.2	2.7	25.1	6.9	21.2
1977	7.3	11.5	4.7	10.6	63.8	2.6	13.1	0.5	61.8	3.2	19.2	7.8	14.0
1978	8.2	12.6	5.0	6.8	60.5	3.2	22.9	0.5	−14.9	3.7	16.4	8.7	10.7
1979	9.4	14.9	5.7	13.6	59.8	3.8	18.9	0.5	−1.5	4.2	14.6	9.9	14.0
1980*	10.2	8.0	6.3	11.2	61.7	3.9	3.1	0.4	−2.1	4.4	2.5	10.6	7.5
1981**	11.1	8.9	7.2	14.1	64.8	3.9	0.0	0.5	8.2	4.4	1.4	11.6	8.9
1982	12.1	9.1	7.9	10.4	65.3	4.2	8.8	0.5	8.6	4.7	7.0	12.7	9.1
1983	13.2	9.2	8.7	9.4	65.5	4.6	8.6	0.6	8.3	5.1	8.6	13.8	9.1
1984	14.4	8.9	9.5	9.1	65.6	5.0	8.5	0.6	7.9	5.6	9.4	15.1	8.9
1985	15.8	9.1	10.3	9.1	65.6	5.4	9.0	0.7	8.0	6.1	8.9	16.4	9.0
1986	17.2	9.4	11.3	9.6	65.7	5.9	9.1	0.7	8.4	6.6	8.8	18.0	9.3
1987	18.9	9.4	12.4	9.7	65.9	6.4	9.0	0.8	8.4	7.2	8.7	19.6	9.3
1988	20.7	9.6	13.6	9.6	65.9	7.0	9.5	0.8	8.4	7.9	9.2	21.5	9.4
1989	22.7	9.5	14.9	9.5	65.9	7.7	9.4	0.9	8.2	8.6	9.1	23.5	9.3
1990	24.8	9.5	16.5	10.1	66.2	8.4	8.5	0.9	8.2	9.3	8.2	25.7	9.4
1991	27.2	9.4	18.1	10.2	66.7	9.0	7.8	1.0	8.2	10.0	7.6	28.1	9.3
1992	29.7	9.4	19.9	9.8	67.0	9.8	8.5	1.0	8.3	10.8	8.2	30.8	9.3
1993	32.5	9.4	21.9	9.8	67.3	10.6	8.5	1.1	8.3	11.7	8.3	33.6	9.3
1994	35.6	9.4	24.0	9.8	67.5	11.5	8.5	1.2	8.3	12.7	8.3	36.8	9.3
1995	39.0	9.4	26.4	9.8	67.8	12.5	8.6	1.2	8.4	13.8	8.4	40.2	9.3

81 GEN 23170

*1980 DATA ARE ESTIMATED
**FORECAST BEGINS IN 1981

CARGO TRAFFIC HISTORY AND FORECAST

TRUNKS

TOTAL REPORT (RTKs IN BILLIONS)

	SCHEDULED SERVICE							NON-SCHED SERVICE		ALL SERVICES			
YEAR	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT PCT	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTK	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)
1971	5.9	0.0	3.4	0.0	57.6	2.5	0.0	0.7	0.0	3.2	0.0	6.6	0.0
1972	6.2	5.3	3.7	9.9	59.7	2.5	−0.9	0.6	−10.0	3.1	−2.8	6.8	3.0
1973	6.7	8.7	4.1	10.0	61.5	2.6	2.0	0.3	−51.8	2.8	−8.3	6.9	1.7
1974	6.8	1.4	4.3	3.9	63.0	2.5	−2.7	0.2	−25.8	2.7	−5.0	7.0	0.3
1975	6.5	−4.4	4.2	−1.2	65.1	2.2	−10.1	0.2	−15.3	2.4	−10.5	6.6	−4.8
1976	6.9	6.3	4.6	8.8	66.7	2.3	1.5	0.1	−19.4	2.4	−0.1	7.0	5.6
1977	7.6	10.1	5.1	12.2	68.0	2.4	6.0	0.1	−11.5	2.5	4.9	7.7	9.7
1978	7.4	−2.2	4.9	−4.5	66.4	2.5	2.7	0.1	−21.9	2.6	1.5	7.5	−2.5
1979	7.5	1.6	5.1	3.5	67.6	2.4	−2.1	0.0	−51.9	2.5	−4.1	7.6	0.9
1980	7.2	−3.9	5.0	−1.2	69.6	2.2	−9.8	0.1	34.5	2.3	−8.9	7.3	−3.7
1981*	7.5	3.8	5.2	3.9	69.6	2.3	3.8	0.1	−6.8	2.3	3.5	7.6	3.8
1982	7.9	4.8	5.5	5.1	69.8	2.4	4.0	0.1	2.0	2.4	4.0	7.9	4.8
1983	8.2	4.7	5.8	4.8	69.8	2.5	4.6	0.1	2.0	2.5	4.5	8.3	4.7
1984	8.6	4.8	6.0	4.6	69.7	2.6	5.2	0.1	2.0	2.7	5.1	8.7	4.8
1985	9.0	4.4	6.3	4.3	69.6	2.7	4.9	0.1	2.0	2.8	4.8	9.1	4.4
1986	9.5	5.3	6.6	4.8	69.2	2.9	6.6	0.1	3.5	3.0	6.5	9.6	5.3
1987	10.0	5.3	6.9	5.2	69.1	3.1	5.6	0.1	3.5	3.2	5.6	10.1	5.3
1988	10.6	5.2	7.3	4.9	68.9	3.3	5.9	0.1	3.5	3.3	5.9	10.6	5.2
1989	11.1	5.1	7.6	4.8	68.8	3.5	5.6	0.1	3.5	3.5	5.6	11.2	5.1
1990	11.7	5.3	8.1	5.8	69.1	3.6	4.3	0.1	3.5	3.7	4.3	11.8	5.3
1991	12.3	5.2	8.5	5.1	69.0	3.8	5.4	0.1	3.6	3.9	5.4	12.4	5.2
1992	12.9	5.0	8.9	5.1	69.1	4.0	4.8	0.1	3.6	4.1	4.8	13.0	5.0
1993	13.6	5.1	9.4	5.4	69.3	4.2	4.5	0.1	3.6	4.3	4.5	13.7	5.1
1994	14.3	5.3	9.9	5.2	69.2	4.4	5.4	0.1	3.6	4.5	5.4	14.4	5.3
1995	15.1	5.4	10.5	5.3	69.2	4.7	5.5	0.1	3.6	4.7	5.5	15.2	5.4

BI GEN 23167

*FORECAST BEGINS IN 1981

CARGO TRAFFIC HISTORY AND FORECAST

MAJORS

TOTAL REPORT (RTKs IN BILLIONS)

	SCHEDULED SERVICE							NON-SCHED SERVICE		ALL SERVICES			
YEAR	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT PCT	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)
1971	6.0	0.0	3.5	0.0	58.3	2.5	0.0	0.7	0.0	3.2	0.0	6.7	0.0
1972	6.3	5.5	3.8	10.3	60.2	2.5	−0.9	0.6	−10.0	3.1	−2.8	6.9	4.0
1973	6.8	7.0	4.2	10.3	62.1	2.6	2.0	0.3	−51.8	2.8	−8.3	7.0	1.9
1974	6.8	1.2	4.4	3.6	63.5	2.5	−2.7	0.2	−25.8	2.7	−5.0	7.1	0.1
1975	6.5	−4.5	4.3	−1.4	65.6	2.2	−10.1	0.2	−15.3	2.4	−10.5	6.7	−4.9
1976	7.0	6.3	4.7	8.8	67.2	2.3	1.5	0.1	−19.4	2.4	−0.1	7.1	5.6
1977	7.7	10.0	5.2	12.0	68.4	2.4	6.0	0.1	−11.5	2.5	4.9	7.8	9.6
1978	7.5	−2.0	5.0	−4.2	66.9	2.5	2.7	0.1	−21.9	2.6	1.5	7.6	−2.3
1979	7.6	1.6	5.2	3.5	68.1	2.4	−2.1	0.0	−51.9	2.5	−4.1	7.7	0.9
1980	7.3	−3.9	5.1	−1.1	70.0	2.2	−9.8	0.1	34.5	2.3	−8.9	7.4	−3.6
1981*	7.6	3.8	5.3	3.9	70.0	2.3	3.8	0.1	−6.8	2.3	3.5	7.7	3.7
1982	8.0	4.9	5.6	5.2	70.3	2.4	4.0	0.1	2.0	2.4	4.0	8.1	4.8
1983	8.4	4.7	5.9	4.8	70.3	2.5	4.6	0.1	2.0	2.5	4.5	8.4	4.7
1984	8.8	4.9	6.2	4.7	70.2	2.6	5.2	0.1	2.0	2.7	5.1	8.9	4.8
1985	9.2	4.4	6.4	4.3	70.1	2.7	4.9	0.1	2.0	2.8	4.8	9.3	4.4
1986	9.7	5.4	6.8	4.9	69.8	2.9	6.6	0.1	3.5	3.0	6.5	9.8	5.4
1987	10.2	5.4	7.1	5.2	69.7	3.1	5.6	0.1	3.5	3.2	5.6	10.3	5.3
1988	10.8	5.2	7.5	4.9	69.5	3.3	5.9	0.1	3.5	3.3	5.9	10.8	5.2
1989	11.3	5.1	7.8	4.8	69.3	3.5	5.6	0.1	3.5	3.5	5.6	11.4	5.0
1990	11.9	5.4	8.3	5.8	69.6	3.6	4.3	0.1	3.5	3.7	4.3	12.0	5.3
1991	12.5	5.2	8.7	5.1	69.6	3.8	5.4	0.1	3.6	3.9	5.4	12.6	5.2
1992	13.2	5.1	9.2	5.2	69.6	4.0	4.8	0.1	3.6	4.1	4.8	13.3	5.1
1993	13.9	5.1	9.7	5.4	69.8	4.2	4.5	0.1	3.6	4.3	4.5	14.0	5.1
1994	14.6	5.3	10.2	5.3	69.8	4.4	5.4	0.1	3.6	4.5	5.4	14.7	5.3
1995	15.4	5.4	10.8	5.3	69.8	4.7	5.5	0.1	3.6	4.7	5.5	15.5	5.4

BI GEN 23165

*FORECAST BEGINS IN 1981

CARGO TRAFFIC HISTORY AND FORECAST

LOCAL

TOTAL REPORT (RTKs IN BILLIONS)

	SCHEDULED SERVICE							NONSCHED SERVICE		ALL SERVICES			
YEAR	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT PCT	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)
1971	0.1	0.0	0.1	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
1972	0.1	19.3	0.1	19.3	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	19.3
1973	0.2	15.1	0.2	15.1	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	15.1
1974	0.2	−4.8	0.2	−4.8	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	−4.8
1975	0.1	−10.3	0.1	−10.3	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	−10.3
1976	0.2	11.5	0.2	11.5	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	11.5
1977	0.2	7.6	0.2	7.6	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	7.6
1978	0.2	10.1	0.2	10.1	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	10.1
1979	0.2	3.8	0.2	3.8	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.8
1980	0.2	−0.8	0.2	−0.8	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	−0.8
1981*	0.2	3.2	0.2	3.2	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.2
1982	0.2	8.2	0.2	8.2	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	8.2
1983	0.2	6.4	0.2	6.4	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	6.4
1984	0.2	7.1	0.2	7.1	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	7.1
1985	0.3	4.8	0.3	4.8	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	4.8
1986	0.3	8.4	0.3	8.4	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	8.4
1987	0.3	6.2	0.3	6.2	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	6.2
1988	0.3	5.1	0.3	5.1	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	5.1
1989	0.3	4.1	0.3	4.1	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	4.1
1990	0.4	8.4	0.4	8.4	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	8.4
1991	0.4	7.2	0.4	7.2	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	7.2
1992	0.4	6.9	0.4	6.9	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	6.9
1993	0.4	6.9	0.4	6.9	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	6.9
1994	0.5	7.0	0.5	7.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	7.0
1995	0.5	7.0	0.5	7.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	7.0

*FORECAST BEGINS IN 1981

BI GEN 23161

CARGO TRAFFIC HISTORY AND FORECAST

NATIONALS

TOTAL REPORT (RTKs IN BILLIONS)

	SCHEDULED SERVICE							NON-SCHED SERVICE		ALL SERVICES			
YEAR	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT RTKs	ANNUAL GROWTH RATE (RTK)	BELLY-PIT PCT	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	ALL FRTR RTKs	ANNUAL GROWTH RATE (RTK)	TOTAL RTKs	ANNUAL GROWTH RATE (RTK)
1971	1.6	0.0	0.1	0.0	6.3	1.5	0.0	0.7	0.0	2.2	0.0	2.3	0.0
1972	1.7	8.0	0.1	11.1	5.9	1.6	7.8	0.8	17.0	2.5	10.8	2.6	10.8
1973	2.1	20.1	0.1	1.0	4.9	2.0	21.3	0.5	−45.0	2.4	−1.5	2.5	−1.4
1974	2.1	3.4	0.1	13.1	5.4	2.0	2.8	0.4	−20.3	2.4	−1.6	2.5	−1.0
1975	2.1	−0.5	0.1	0.0	5.4	2.0	−0.5	0.3	−6.6	2.4	−1.5	2.5	−1.4
1976	2.2	3.3	0.1	1.8	5.3	2.1	3.4	0.5	38.2	2.6	8.5	2.7	8.2
1977	2.3	6.1	0.1	3.2	5.2	2.2	6.3	0.8	72.3	3.0	18.7	3.2	18.0
1978	2.8	21.7	0.1	6.4	4.5	2.7	22.6	0.9	8.7	3.6	18.8	3.7	18.3
1979	3.0	7.3	0.1	4.9	4.4	2.9	7.4	0.9	0.4	3.8	5.6	3.9	5.6
1980	3.2	6.3	0.2	26.2	5.3	3.1	5.3	0.9	3.0	4.0	4.8	4.2	5.5
1981*	3.3	3.0	0.2	3.5	5.3	3.2	3.0	1.0	3.0	4.1	3.0	4.3	3.0
1982	3.6	6.8	0.2	7.7	5.3	3.4	6.7	1.0	6.2	4.4	6.6	4.6	6.7
1983	3.9	8.5	0.2	6.3	5.2	3.7	8.6	1.1	6.2	4.7	8.1	5.0	8.0
1984	4.2	7.8	0.2	6.6	5.2	4.0	7.9	1.2	6.2	5.1	7.5	5.3	7.5
1985	4.5	8.1	0.2	4.8	5.0	4.3	8.3	1.2	6.3	5.5	7.8	5.7	7.7
1986	4.8	7.2	0.2	7.9	5.0	4.6	7.2	1.3	6.3	5.9	7.0	6.1	7.0
1987	5.2	8.3	0.3	6.0	4.9	5.0	8.4	1.4	5.5	6.4	7.8	6.6	7.7
1988	5.6	7.2	0.3	5.1	4.8	5.3	7.3	1.5	5.5	6.8	6.9	7.1	6.8
1989	6.0	6.8	0.3	4.2	4.7	5.7	6.9	1.5	5.5	7.3	6.6	7.5	6.6
1990	6.4	6.1	0.3	8.0	4.8	6.1	6.0	1.6	5.6	7.7	5.9	8.0	6.0
1991	6.9	8.1	0.3	7.2	4.8	6.6	8.1	1.7	5.1	8.3	7.5	8.6	7.5
1992	7.4	7.5	0.4	6.8	4.7	7.1	7.5	1.8	5.1	8.9	7.0	9.2	7.0
1993	7.9	7.0	0.4	6.7	4.7	7.6	7.0	1.8	5.1	9.4	6.6	9.8	6.6
1994	8.5	6.5	0.4	6.8	4.7	8.1	6.5	2.0	5.1	10.0	6.2	10.4	6.3
1995	9.0	6.5	0.4	6.8	4.7	8.6	6.5	2.1	5.1	10.7	6.2	11.1	6.3

*FORECAST BEGINS IN 1981

BI GEN 23161

APPENDIX E
ADDITIONAL AIRCRAFT DETAIL

TOTAL WORLD

JET PASSENGER AIRCRAFT REQUIREMENT
BY GENERIC CLASS

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	TOTAL
SHORT-RANGE 110																
ORDERS	115	91	17	9	11											243
OPTIONS		8	27	5	0	10	10									60
GENERIC		20	16	62	65	57	57	66	54	40	33	29	27	24	0	550
TOTAL SR-110	115	119	60	76	76	67	67	66	54	40	33	29	27	24	0	853
SHORT-RANGE 160																
ORDERS	152	38	35	28	25	10	10	15	15							328
OPTIONS		5	31	23	10	30	18	9								126
GENERIC		12	25	16	39	130	168	215	204	204	228	224	208	249	250	2172
TOTAL SR-160	152	55	91	67	74	170	196	239	219	204	228	224	208	249	250	2626
MEDIUM-RANGE 200																
ORDERS	2	23	94	81	26	16	5	7								254
OPTIONS			5	27	69	74	19	27	4	0	2	2	2			231
GENERIC		1	6	5	15	23	38	40	48	59	65	53	59	64	62	538
TOTAL MR-200	2	24	105	113	110	113	62	74	52	59	67	55	61	64	62	1023
MEDIUM-RANGE 250																
ORDERS	61	56	18	14	8											157
OPTIONS	2	7	16	21	22	14										82
GENERIC					4	21	24	26	40	51	61	48	56	65	67	463
TOTAL MR-250	63	63	34	35	34	35	24	26	40	51	61	48	56	65	67	702
LONG-RANGE 270																
ORDERS	35	15	4													54
OPTIONS		3	19	6	2											30
GENERIC			2	15	25	29	31	29	32	31	29	32	29	37	33	354
TOTAL LR-270	35	18	25	21	27	29	31	29	32	31	29	32	29	37	33	438
LONG-RANGE 400																
ORDERS	50	20	6	1												77
OPTIONS		3	15	14	3											35
GENERIC		1	1	5	4	28	27	36	37	34	46	66	63	85	84	517
TOTAL LR-400	50	24	22	20	7	28	27	36	37	34	46	66	63	85	84	629
LONG-RANGE 600																
GENERIC								2	7	5	10	9	8	9	10	60
TOTAL																
ORDERS	415	243	174	133	70	26	15	22	15							1113
OPTIONS	2	26	113	96	106	128	47	36	4	0	2	2	2			564
GENERIC		34	50	103	152	288	345	414	422	424	472	461	450	533	506	4654
TOTAL FLEET	417	303	337	332	328	442	407	472	441	424	474	463	452	533	506	6331

81 GEN 23145

TOTAL U.S.
JET PASSENGER AIRCRAFT REQUIREMENT
BY GENERIC CLASS

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	TOTAL
SHORT-RANGE 110																
ORDERS	24	38	14	9	11											96
OPTIONS		1	11	5		10	10									37
GENERIC		1	5	11	11	17	16	12	13	12	11	9				118
TOTAL SR-110	24	40	30	25	22	27	26	12	13	12	11	9				251
SHORT-RANGE 160																
ORDERS	77	22	16	21	20	10	10	15	15							206
OPTIONS		5	15	18	6	21	6	6								77
GENERIC		12	25	16	13	71	93	98	103	107	109	116	113	142	122	1140
TOTAL SR-160	77	39	56	55	39	102	109	119	118	107	109	116	113	142	122	1423
MEDIUM-RANGE 200																
ORDERS		17	51	34	3											105
OPTIONS				14	37	37										88
GENERIC			4	2	4	8	14	18	20	28	30	26	20	28	23	225
TOTAL MR-200		17	55	50	44	45	14	18	20	28	30	26	20	28	23	418
MEDIUM-RANGE 250																
ORDERS	14	15	4													33
OPTIONS			4	13	13	10										40
GENERIC						5	6	6	11	26	27	23	22	33	18	177
TOTAL MR-250	14	15	8	13	13	15	6	6	11	26	27	23	22	33	18	250
LONG-RANGE 270																
ORDERS	6															6
OPTIONS		1	4	1	2											8
GENERIC			2	2	5	0	3	3	0	1	2	1	3	3	3	28
TOTAL LR-270	6	1	6	3	7	0	3	3	0	1	2	1	3	3	3	42
LONG-RANGE 400																
ORDERS	1	2														3
OPTIONS			4													4
GENERIC		1	1	5	4	9	9	5	8	12	16	16	16	23	10	135
TOTAL LR-400	1	3	5	5	4	9	9	5	8	12	16	16	16	23	10	142
LONG-RANGE 600																
GENERIC								2	7	5	6	6	5	6	6	43
TOTAL																
ORDERS	122	94	85	64	34	10	10	15	15							449
OPTIONS		7	38	51	58	78	16	6								254
GENERIC		14	37	36	37	110	141	144	162	191	201	197	179	235	182	1866
TOTAL FLEET	122	115	160	151	129	198	167	165	177	191	201	197	179	235	182	2569

81-GEN-23147

TOTAL EUROPE

JET PASSENGER AIRCRAFT REQUIREMENT
BY GENERIC CLASS

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	TOTAL
SHORT-RANGE 110																
ORDERS	45	14														59
OPTIONS		6	7													13
GENERIC		4	11	28	21	24	19	22	14	11	10	4	9			177
TOTAL SR-110	45	24	18	28	21	24	19	22	14	11	10	4	9			249
SHORT-RANGE 160																
ORDERS	28	6	14	6	3											57
OPTIONS			11	4	3	6	9									33
GENERIC					12	43	30	51	47	34	40	38	26	36	40	397
TOTAL SR-160	28	6	25	10	18	49	39	51	47	34	40	38	26	36	40	487
MEDIUM-RANGE 200																
ORDERS	2	1	18	22	8	7	4	7								69
OPTIONS			1	6	16	15	6	16	2							62
GENERIC		1	1	3	6	8	12	11	11	13	12	14	15	13	15	135
TOTAL MR-200	2	2	20	31	30	30	22	34	13	13	12	14	15	13	15	266
MEDIUM-RANGE 250																
ORDERS	20	15	2	2												39
OPTIONS		2	2	4	4	4										16
GENERIC					3	4	3	5	8	9	13	10	12	10	17	94
TOTAL MR-250	20	17	4	6	7	8	3	5	8	9	13	10	12	10	17	149
LONG-RANGE 270																
ORDERS	7	5	3													15
OPTIONS			3	3												6
GENERIC				13	2	12	10	9	8	10	5	10	9	9	5	102
TOTAL LR-270	7	5	6	16	2	12	10	9	8	10	5	10	9	9	5	123
LONG-RANGE 400																
ORDERS	18	5	4	1												28
OPTIONS		2	6	4	3											15
GENERIC						3	12	16	18	17	12	16	13	16	16	139
TOTAL LR-400	18	7	10	5	3	3	12	16	18	17	12	16	13	16	16	182
LONG-RANGE 600																
GENERIC											4	3	2	3	4	17
TOTAL																
ORDERS	120	46	41	31	11	7	4	7								287
OPTIONS		10	30	21	26	25	15	16	2							145
GENERIC		5	12	44	44	94	86	114	106	94	96	95	87	87	97	1061
TOTAL FLEET	120	61	83	96	81	126	105	137	108	94	96	95	87	87	97	1473

81 GEN 23144

TOTAL OTHER

JET PASSENGER AIRCRAFT REQUIREMENT

BY GENERIC CLASS

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	TOTAL
SHORT-RANGE 110																
ORDERS	46	39	3													88
OPTIONS		1	9													10
GENERIC		15	0	23	33	16	22	32	27	17	12	16	18	24	0	255
TOTAL SR-110	46	55	12	23	33	16	22	32	27	17	12	16	18	24	0	353
SHORT-RANGE 160																
ORDERS	47	18	5	1	2											65
OPTIONS			5	1	1	3	3	a 3								16
GENERIC					14	16	45	66	54	63	79	70	69	71	88	635
TOTAL SR-160	47	10	10	2	17	19	48	69	54	63	79	70	69	71	88	716
MEDIUM-RANGE 200																
ORDERS		5	25	25	15	9	1									80
OPTIONS			4	7	16	22	13	11	2	0	2	2	2			81
GENERIC			1	0	5	7	12	11	17	18	23	13	24	23	24	178
TOTAL MR-200		5	30	32	36	38	26	22	19	18	25	15	26	23	24	339
MEDIUM-RANGE 250																
ORDERS	27	26	12	12	8											85
OPTIONS	2	5	10	4	5											26
GENERIC					1	12	15	15	21	16	21	15	22	22	32	192
TOTAL MR-250	29	31	22	16	14	12	15	15	21	16	21	15	22	22	32	303
LONG-RANGE 270																
ORDERS	22	10	1													33
OPTIONS		2	12	2												16
GENERIC					18	17	18	17	24	20	22	21	17	25	25	224
TOTAL LR-270	22	12	13	2	18	17	18	17	24	20	22	21	17	25	25	273
LONG-RANGE 400																
ORDERS	31	13	2													46
OPTIONS		1	5	10												16
GENERIC					0	16	6	15	11	5	18	34	34	48	58	243
TOTAL LR-400	31	14	7	10	0	16	6	15	11	5	18	34	34	48	58	305
LONG-RANGE 600																
GENERIC																0
TOTAL																
ORDERS	173	103	48	38	25	9	1									397
OPTIONS	2	9	45	24	22	25	16	14	2	0	2	2	2			165
GENERIC		15	1	23	71	84	118	156	154	139	175	169	184	211	227	1727
TOTAL FLEET	175	127	94	85	118	118	135	170	156	139	177	171	186	211	227	2289

81-GEN-23146